

WELCOME TO TECHNICAL ORDER 00-105E-9, 1 JULY 2004, REVISION 9.

THIS IS SEGMENT 19 COVERING CHAPTER 19.

TO NAVIGATE

CLICK ON THE BOOKMARKS AND CLICK ON THE (+) SYMBOLS, THEN CLICK ON SUBJECT LINKS TO GO TO SPECIFIC VIEWS IN THIS SEGMENT.



CONTINUE

NOTICE

CONTACT

**TO GO DIRECTLY TO THE TECHNICAL ORDER,
CLICK ON THE CONTINUE BUTTON.**

**TO SEE THE SEGMENT INFORMATION CHANGE NOTICE,
CLICK ON THE NOTICE BUTTON.**



**TO CONTACT THE TECHNICAL CONTENT MANAGER ,
CLICK ON THE CONTACT BUTTON.**

TECHNICAL ORDER 00-105E-9 TECHNICAL CONTENT MANAGER

WRITTEN CORRESPONDENCE:

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<http://www.afcesa.af.mil/CEX/fire/index.asp>

PHONE: (850) 283-6150
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DSN 523-6390

For technical order improvements, correcting procedures, and other inquiries, please use the above media most convenient.

SEGMENT 19 INFORMATION CHANGE NOTICE

This page is provided to notify the user of any informational changes made to Technical Order 00-105E-9 in this Segment and the current Revision. Informational changes will be referenced in the Adobe Reader's Bookmark tool as a designator symbol illustrated as a <[C]> for quick reference to the right of the affected aircraft. The user shall insure the most current information contained in this TO is used for his operation. Retaining out of date rescue information can negatively affect the user's operability and outcome of emergencies. If the user prints out pages his unit requires, the user shall print the affected page(s), remove and destroy the existing page(s), and insert the newly printed page(s) in the binder provided for that purpose. A Master of this TO shall be retained in the unit's library for reference, future printing requirements and inspections.

<u>CHAPTER</u>	<u>AIRCRAFT</u>	<u>PAGE</u>	<u>EXPLANATION OF CHANGE</u>
19	ALL	ALL	All new chapter information added for first time concerning various US Government agencies.

NOTE:

This chapter is incomplete. Incomplete aircraft source data is pending.

NOTE

Chapter 19 contains emergency rescue and mishap response information for the following aircraft:

USCG	HC-130**
USCG	HH-60J**
USCG	HU-25
NOAA	212 **
NOAA	CITATION II
NOAA	WP-3D**
NOAA	AC-690
NOAA	LA-27
NOAA	G-IV**
NOAA	AC-500S
NOAA	DH-6
NOAA	MD-500D
USFS	DC-7**
USFS	DC-6**
USFS	DC-4*
USFS	C-130A**
USFS	PV2*
USFS	SP-2H*
USFS	P3A**
USFS	PB4Y*
USFS	S-2*
USFS	S-2F3AT*
USFS	KC-97/(K)C-97L
USFS	AS 350
USFS	204B(UH-1A/B/C)**
USFS	206B(OH-58)**
USFS	206L3
USFS	205(UH-1D/H)**
USFS	412/212**
USFS	214
USFS	222
USFS	CH-47**
USFS	BV-107
USFS	234
USFS	BK-117
USFS	BO-105**
USFS	FH-1100
USFS	S-64(CH-54)**
USFS	500C/D(OH-6)**
USFS	S-58T
USFS	S-61N
USFS	S-70(UH-60A)**

* Aircraft information pending

** See like aircraft in manual

CHAPTER 19

U.S. GOVERNMENT

VARIOUS AGENCIES

AEROSPACE EMERGENCY RESCUE AND MISHAP RESPONSE INFORMATION

19-1. INTRODUCTION AND USE.

19-2. This section contains emergency rescue and mishap response information illustrations in alpha-numerical order relative to type and model of aircraft. This arrangement of illustrations is maintained from Chapter 4 throughout the remainder of the publication.

19-3. GENERAL ARRANGEMENT.

19-4. Aircraft type designation has been positioned in the upper right corner of the horizontal illustration for rapid identification. Additional aids to rapid orientation are:

a. Recent technological advances in aviation have caused concern for the modern firefighter. Aircraft hazards, cabin configurations, airframe materials, and any other information that would be helpful in fighting fires, the locating and rescue of personnel will be added as the information becomes available.

b. Suggested special tools/equipment are listed in the upper left corner, on the Aircraft/Entry page of each listed aircraft.

c. Procedural steps covering emergency/normal entrances, cut-ins, engine/APU shutdown, safetying ejection/escape systems, and aircrew extraction are outlined on the left side of each page with coordinated illustrations on the right.

d. Illustrations located on right side of pages are coordinated with text by numerals and small letters depicting both paragraph and subparagraph on the page.

e. Each illustration is consistently colored and/or pattern keyed to highlight essential emergency rescue information.

f. Details are pulled directly from the illustration to highlight an area, thus eliminating unnecessary searching for desired information.

17-5. AGENCY PLATFORMS.

17-6. Most aircraft in these active inventories are included in this manual. Those aircraft not yet included will be added in the near future.

a. FAA Platforms are: **Boeing 727-25C, Convair CV-580, Beech King Air BE-200, Aero Commander AC-680E, and Sikorsky S-76A.**

b. Dept of Energy Platforms are intensively modified to perform their specialized missions and many are inherently unavailable for other applications. DOE uses a **Gulfstream 159** for airborne atmospheric research and, for climate research, a **Cessna-172N** and **various Unmanned Aerospace Vehicles (UAVs)** and a **DeHavilland DCH-6 Twin Otter** chase plane in support of DOE's Atmospheric Radiation Measurements program.

c. Federal Research aircraft available for oceanographic research, helps to promote interagency cooperation, coordination, and scheduling of assets. The National Oceanographic Partnership Program (NOPP) is a collaboration of fifteen Federal agencies to provide leadership and coordination of national oceanographic research and education programs.

NOPP Agencies with Participating Aircraft

DOE, National Science Foundation, FAA*, Office of Naval Research, NASA, U.S.C.G. and NOAA.

*Not a member of NOPP

Other NOPP Agencies

Army Corps of Engineers Minerals Management Service, Defense Advanced Research Projects, Office of Management and Budget, Department of Homeland Security, Office of Science and Technology Policy Department of State U.S. Geological Survey, EPA and Naval Research Laboratory.

d. The U.S. Immigrations and Customs Enforcement (ICE) aircraft are **PC-12, UH-60A, Eurocopter AS-350 and Cessna Citation II.**

The aircraft information is located in Chapter 6
containing USAF aircraft.

The aircraft information is located in Chapter 13
containing USAF aircraft.

HH-65A.1

AIRCRAFT PAINT SCHEMES



HH-65A

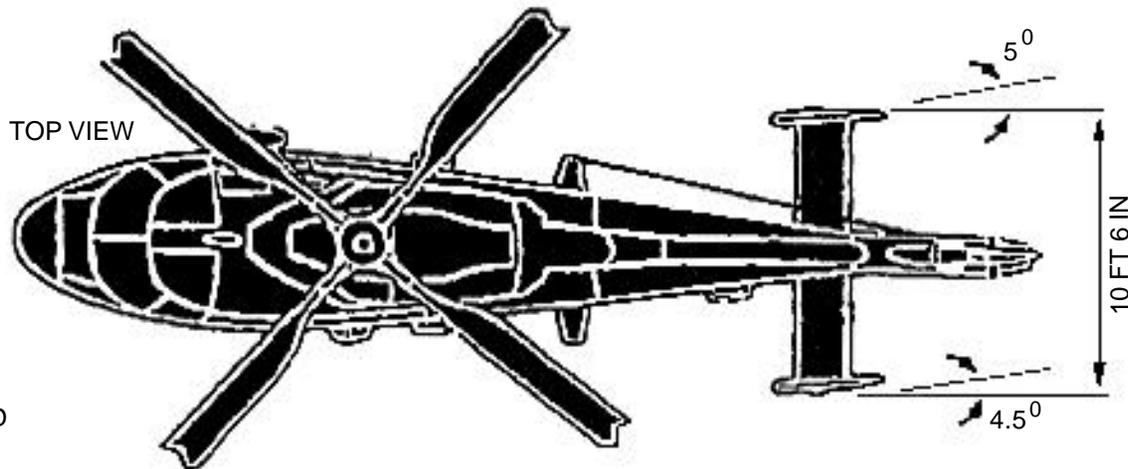
T.O. 00-105E-9



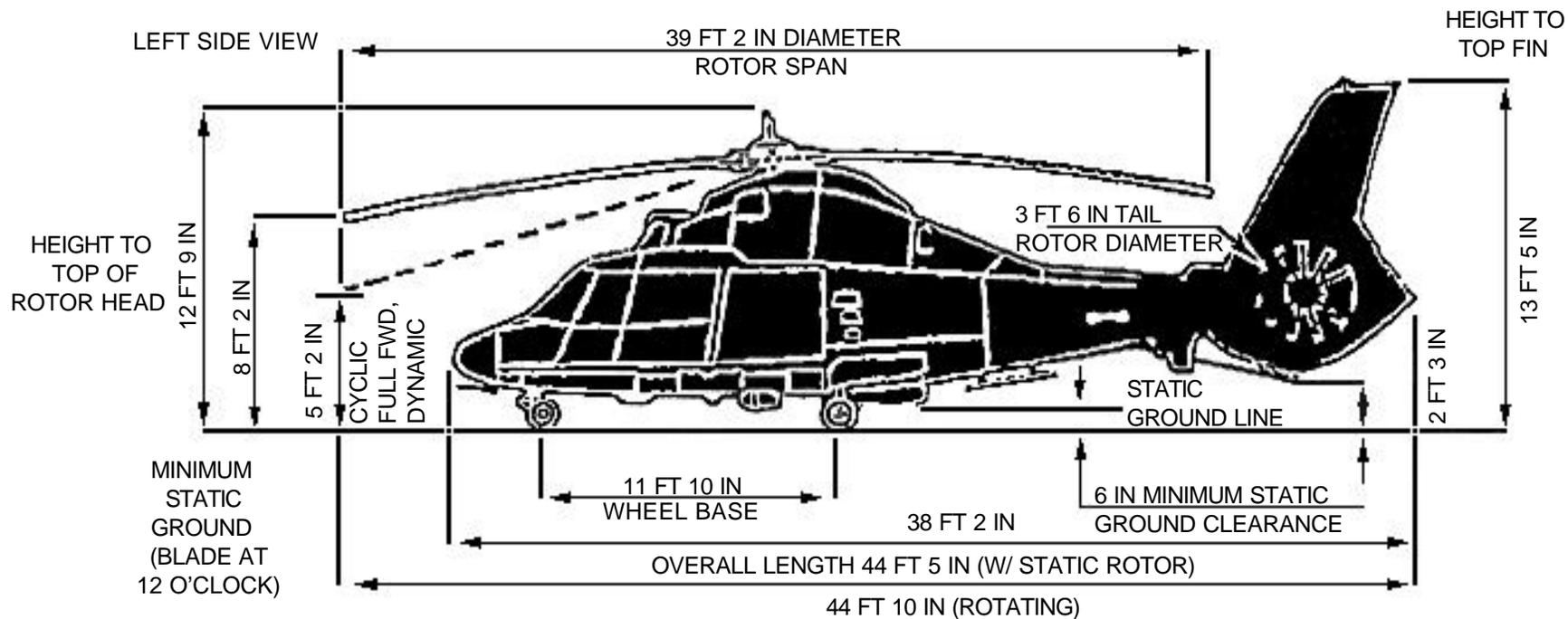
AIRCRAFT DIMENSIONS

AIRCRAFT WITH BLADES FOLDED: LENGTH - 38 FT 2 IN
 WIDTH (AT STABILIZER) - 10 FT 6 IN
 AIRCRAFT DISASSEMBLED FOR SHIPMENT: LENGTH - 21 FT 5 IN
 WIDTH (STABILIZER REMOVED) - 6 FT 8 IN
 HEIGHT (ROTOR HEAD AND LANDING GEAR REMOVED) - 8 FT 4 IN

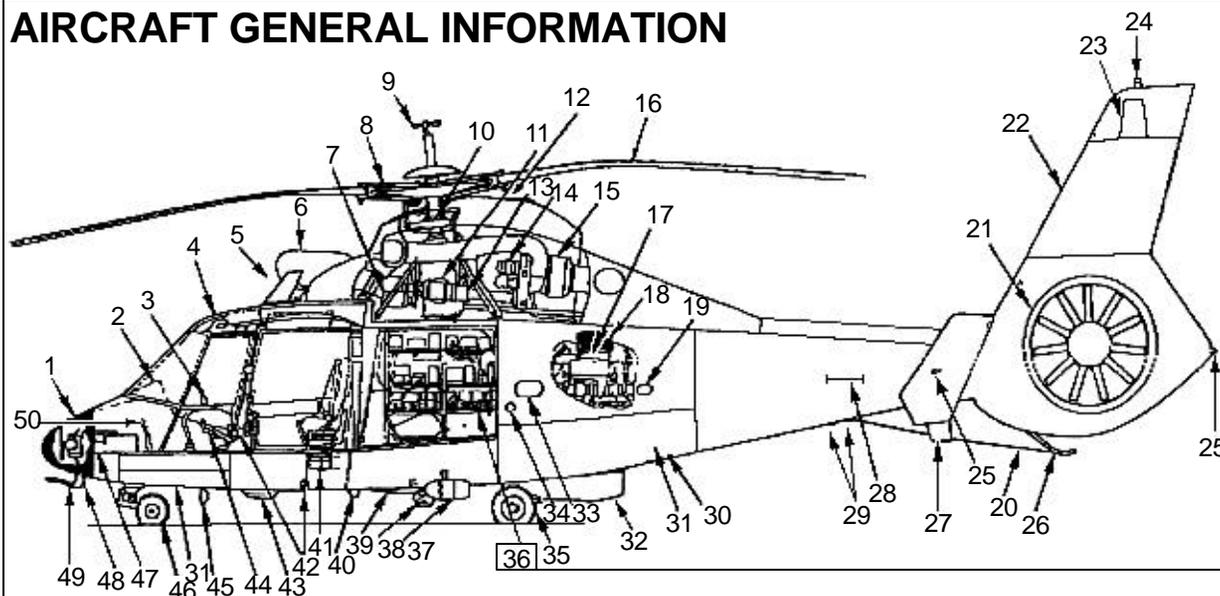
HH-65A



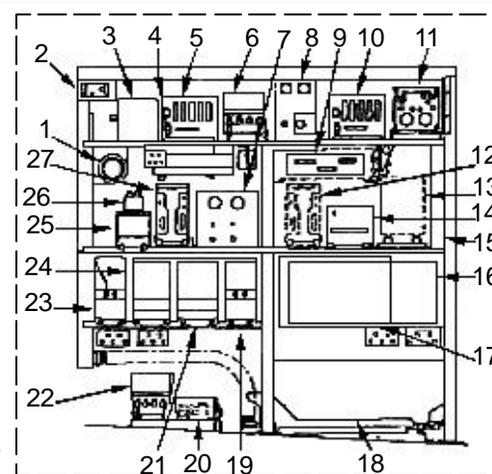
MINIMUM GROUND CLEARANCE WITH CYCLIC DISPLACED TO LIMIT LIGHT ILLUMINATION (100% NR) - 7 FT 7.2 IN



AIRCRAFT GENERAL INFORMATION



- | | |
|----------------------------------|--|
| 1 RADOME | 26 TAIL SKID |
| 2 INSTRUMENT PANEL | 27 UHF/VHF COMM 2 RADIO ANTENNA |
| 3 CYCLIC (2) | 28 VOR/ILS ANTENNA |
| 4 FREE AIR TEMPERATURE PROBE | 29 RADAR ALTIMETER ANTENNAS |
| 5 VHF/FM RADIO ANTENNA | 30 UHF/DF ANTENNA |
| 6 RESCUE HOIST | 31 FLOTATION EQUIPMENT BAY (2 SHOWN) |
| 7 ALTERNATOR (2) | 32 FUEL DUMP FAIRING (OUT OF VIEW) |
| 8 ROTOR HEAD | 33 GRAVITY REFUELING RECEPTACLES (2) |
| 9 OMNIDIRECTIONAL AIR DATA PROBE | 34 EXTERNAL AIR CONDITIONING RECEPTACLES |
| 10 ROTATING SMASHPLATE | 35 MAIN LANDING GEAR |
| 11 MAIN GEARBOX | 36 AVIONICS EQUIPMENT RACK (SEE RT VIEW) |
| 12 GSP ANTENNA | 37 SEARCH LIGHT |
| 13 DRIVE COUPLING SHAFT | 38 CARGO HOOK |
| 14 STARTER/GENERATOR (2) | 39 MARKER BEACON ANTENNA |
| 15 ENGINE (2) | 40 TACAN ANTENNA |
| 16 ROTOR BLADE | 41 LOUD HAILER (NOT PERMANENTLY INSTALLED) |
| 17 AIRCONDITIONER HEAT EXCHANGER | 42 CREW SEATS (3) |
| 18 ECS AIR INTAKE | 43 ADF LOOP ANTENNA (LT) TCAS ANTENNA (RT) |
| 19 ECS AIR EXHAUST | 44 COLLECTIVE (2) |
| 20 HF RADIO ANTENNA | 45 HOVER LIGHT (LT) LANDING LIGHT (RT) |
| 21 TAIL ROTOR | 46 NOSE LANDING GEAR |
| 22 VERTICAL STABILIZER | 47 BATTERY |
| 23 UHF/VHF COMM 1 & TCAS ANTENNA | 48 SEARCH/WEATHER RADAR |
| 24 ANTICOLLISION LIGHT | 49 PILOT PROBES (2) |
| 25 POSITION LIGHT | 50 DIRECTIONAL CONTROL PANELS |



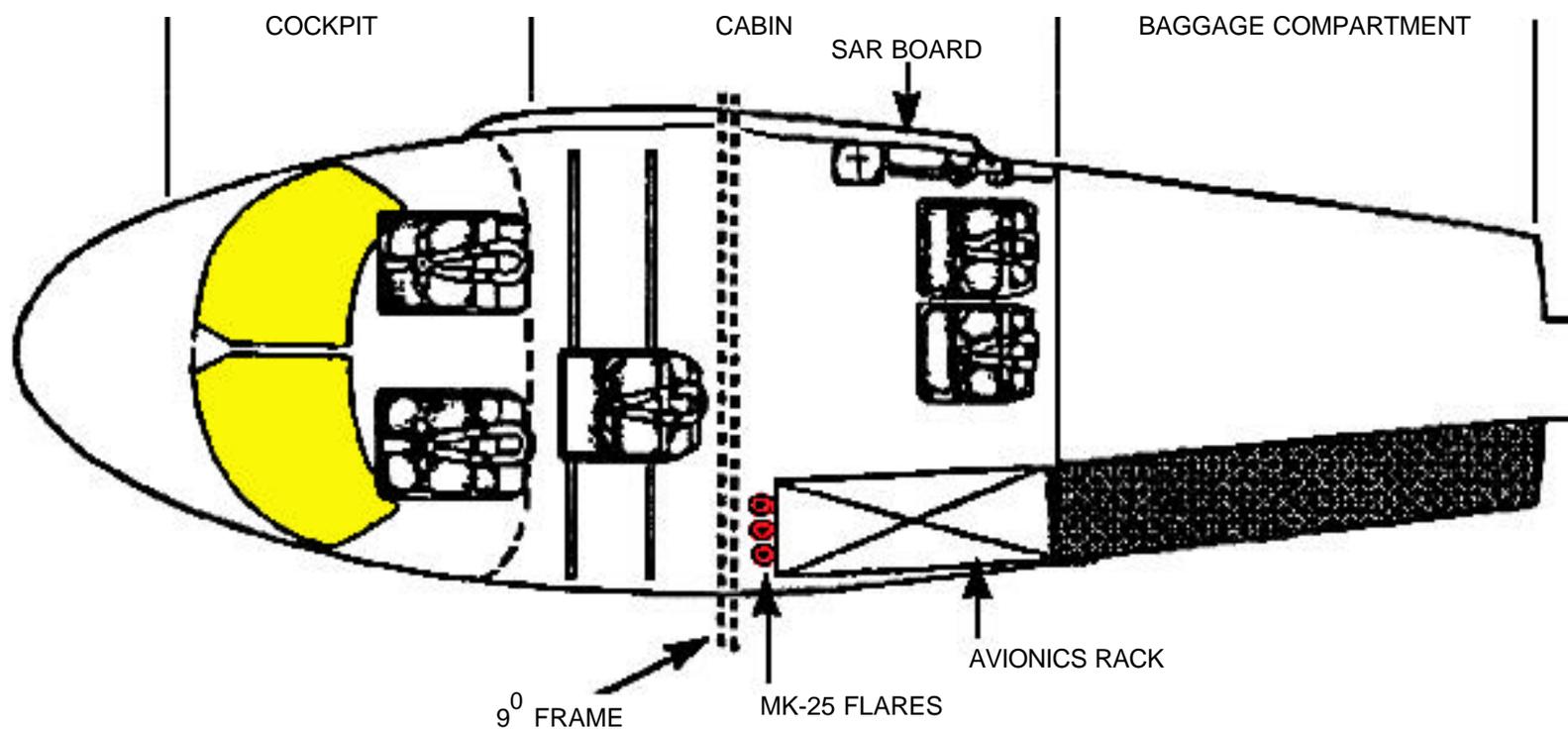
DETAILED VIEW OF AVIONICS RACK
LOOKING OUTBOARD

- | |
|---|
| 1 AVIONICS RACK FAN |
| 2 AUXILLARY AUDIO CONTROL PANEL |
| 3 ALTITUDE CONTROLLER |
| 4 LOUDHAILER AMPLIFIER |
| 5 NO.1 SYSTEM COUPLER COMPUTER (SCC) |
| 6 COMM 1 UHF/VHF |
| 7 TACAN |
| 8 OMNIDIRECTIONAL AIR DATA SYSTEM (OADS) |
| 9 AUDIO MIXER |
| 10 NO.2 SYSTEM COUPLER COMPUTER (SCC) |
| 11 IFF |
| 12 VOICE FLIGHT DATA RECORDER (VFDR) |
| 13 IFF KIT 1C (PROVISIONAL) OR TCAS TRC79 |
| 14 VHF/FM |
| 15 AVIONICS RACK CIRCUIT BREAKER PANEL |
| 16 GPS RECEIVER |
| 17 SIGNAL INTERFACE UNIT (SIU) |
| 18 MISSION COMPUTER UNIT (MCU) |
| 19 COPILOT'S DISPLAY DRIVER UNIT (DDU) |
| 20 RATE GYROS AND ACCELEROMETERS |
| 21 FLIGHT DIRECTOR COMPUTER (FDC) |
| 22 COMM 2 VHF/UHF |
| 23 PILOT'S DISPLAY DRIVER UNIT (DDU) |
| 24 AFCS COMPUTER |
| 25 ADF |
| 26 AIRSPEED SENOR |
| 27 NO 1 VOR/ILS NAV RECEIVER |

AIRFRAME MATERIALS

1. AIRFRAME MATERIALS

The cockpit, cabin and baggage compartment is constructed primarily of longitudinal, aluminum alloy beams and non-metallic honeycomb laminated with fiberglass with a metal covering that supports the vertical fin and a fixed horizontal stabilizer. Graphic illustrates the 9⁰ Frame and basic interior of the HH-65A.



HH-65A.5 AIRCRAFT FUEL SYSTEM AND CAPACITIES

HH-65A

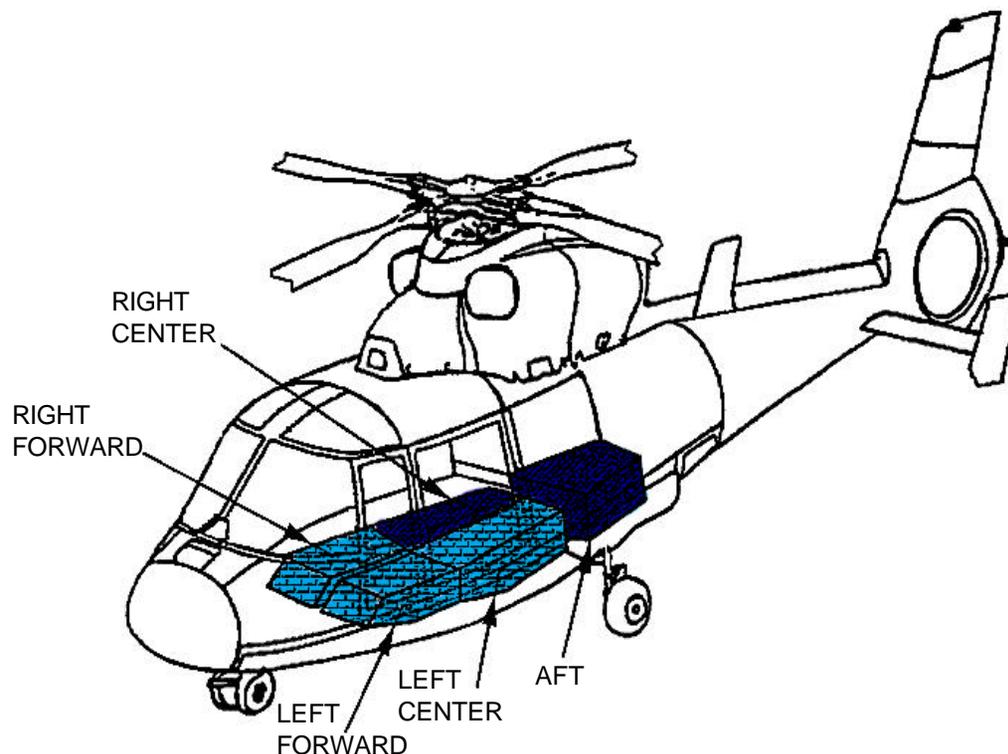
T.O. 00-105E-9

1. AIRCRAFT FUEL SYSTEM

a. The fuel system has 5 cells, located beneath the floor panel in seal compartments. The 5 cells are divided into 2 systems. The #1 system has 3 cells and #2 has 2 cells. This arrangement minimizes lateral and longitudinal center of gravity changes as fuel is consumed. Each system has a feeder tank located in its center tank for its respective engine. Each system is vented to an expansion tank mounted in the baggage compartment.

 #1 FUEL SYSTEM

 #2 FUEL SYSTEM



2. FUEL CAPACITY CHART

FUEL CAPACITY																
TANKS	LEFT SYSTEM (#1)								RIGHT SYSTEM (#2)							
	PRESSURE FUELING			GRAVITY FUELING					PRESSURE FUELING			GRAVITY FUELING				
	GALS	POUNDS		GALS	POUNDS			GALS	POUNDS		GALS	POUNDS				
		JP-4	JP-5	JP-8		JP-4	JP-5	JP-8		JP-4	JP-5	JP-8		JP-4	JP-5	JP-8
RIGHT FWD	39.6	257	269	265	43.8	285	298	293								
LEFT FWD	37.0	241	252	248	42.5	276	289	285								
LEFT CTR	59.6	387	405	399	55.4	360	377	371								
RIGHT CTR									71.6	463	487	480	59.1	384	402	396
AFT									74.3	486	509	501	82.7	577	603	594
TOTAL	136.2	885	926	912	141.7	921	964	949	146.4	952	996	981	147.8	961	1005	990

FUEL AND STATIC SYSTEMS

1. DRAINING/BLEEDING POINTS

NOTE:

Servicing also includes the use of aircraft draining and bleeding points. These are provided for the pitot-static system and fuel sump draining as well as the hydraulic system. The points may be a source of flammable hazards.

2. GRAVITY REFUELING PANEL

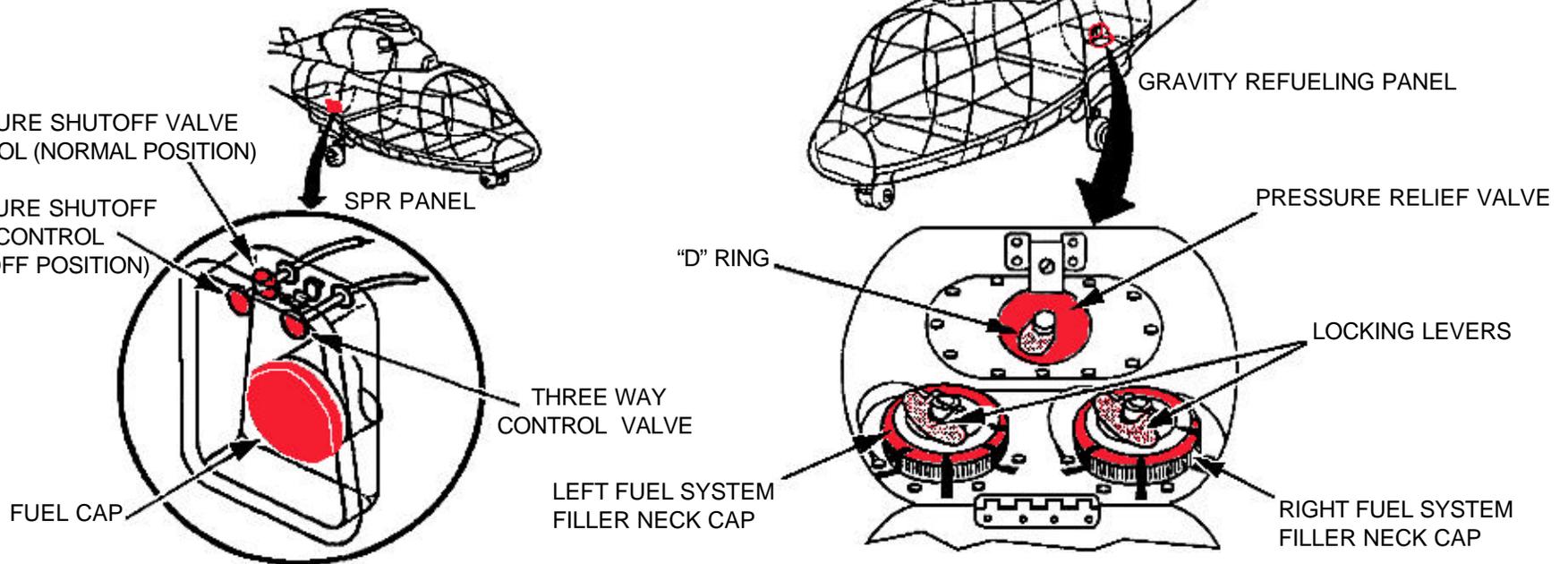
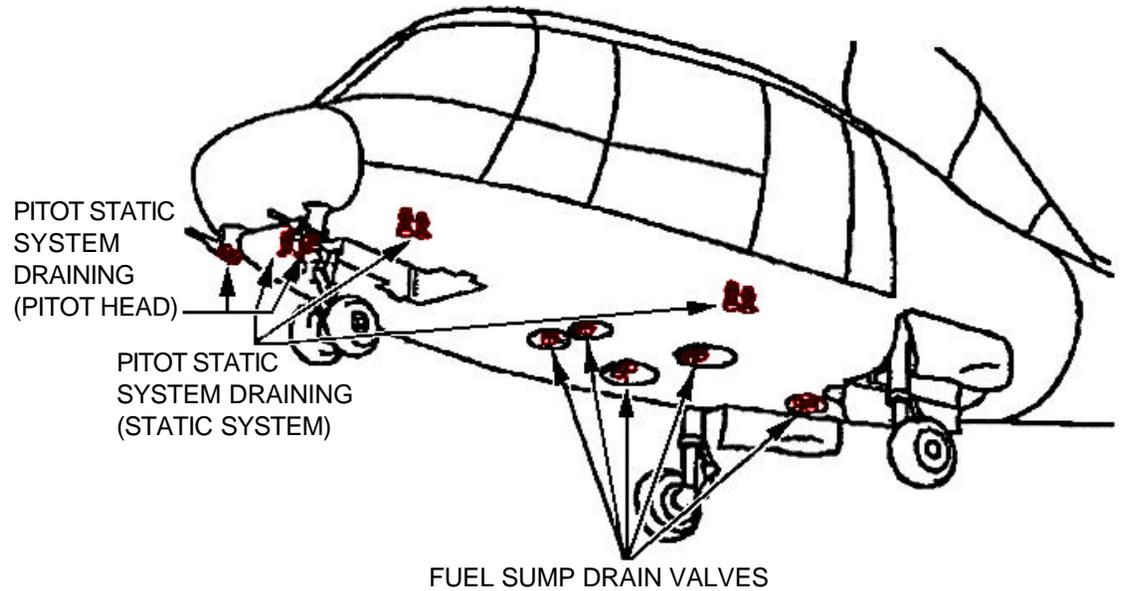
NOTE:

The gravity refueling panel is located above the left main landing gear. The location of the panel and components are illustrated to the right.

3. SINGLE POINT REFUELING (SPR) PANEL

NOTE:

The pressure refueling receptacle is on a panel located above the right main landing gear.



EMERGENCY EXITS AND LOCATIONS

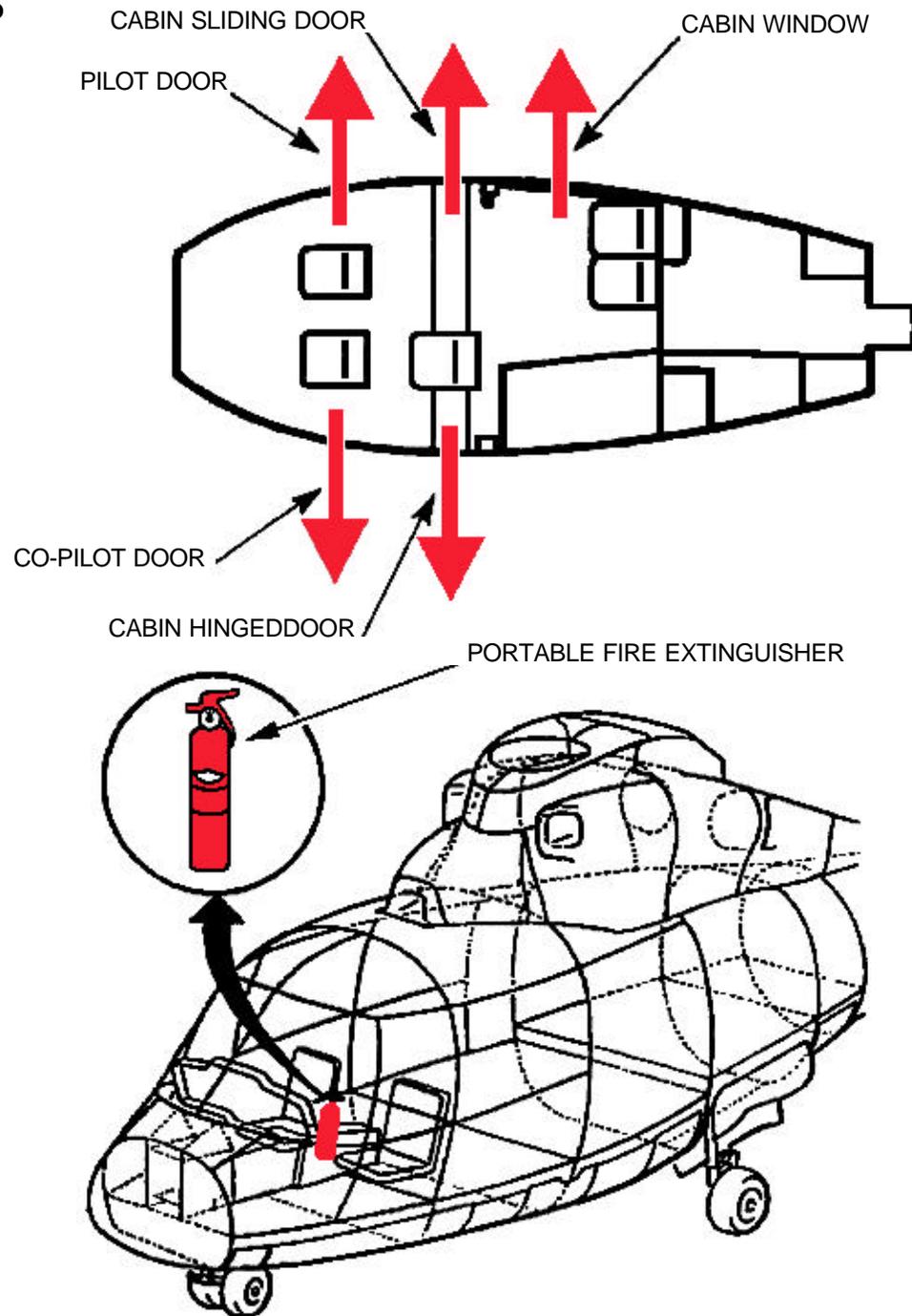
1. EMERGENCY EXITS AND LOCATIONS

NOTE:

An important item concerning helicopter ditching over water is the aircraft, almost always, turns upside down. This will complicate egress by the crew and passengers from the helicopter as well as rescue crews attempting to enter and extract personnel. Knowing where and how to operate these emergency exits become a matter of life and death.

2. PORTABLE FIRE EXTINGUISHER

- a. A portable fire extinguisher is located between the pilot and co-pilot seats in the cockpit.



SPECIAL TOOLS/EQUIPMENT

Power Rescue Saw
Fire Drill II

AIRCRAFT ENTRY

1. NORMAL ENTRY

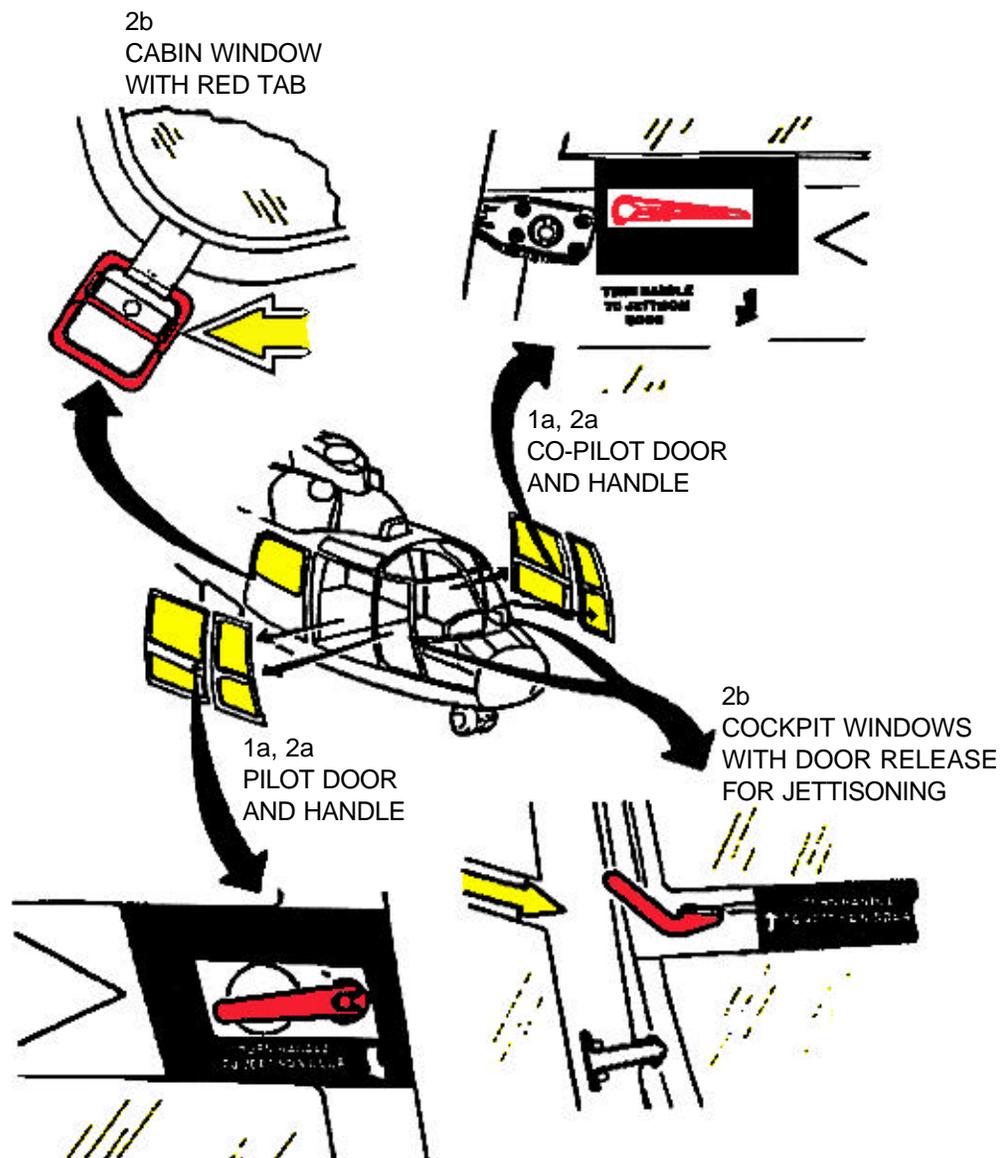
- a. Opening the pilot or co-pilot door or any door is accomplished by rotating the door handle downward.
- b. The left side door is a hinged door.
- c. The right side door is a sliding door.

2. EMERGENCY ENTRY

- a. Emergency entry through any door is accomplished through the door release to jettison the door.
- b. Opening the cabin window by pulling outward on the red-tabbed lanyard and pushing inward on the window.
- c. Accessing the cabin can be made through the baggage compartment door.

3. CUT-IN

- a. Cut-in to aircraft as needed.



HH-65A.9 ENGINE SHUTDOWN AND FIRE WARNING

HH-65A

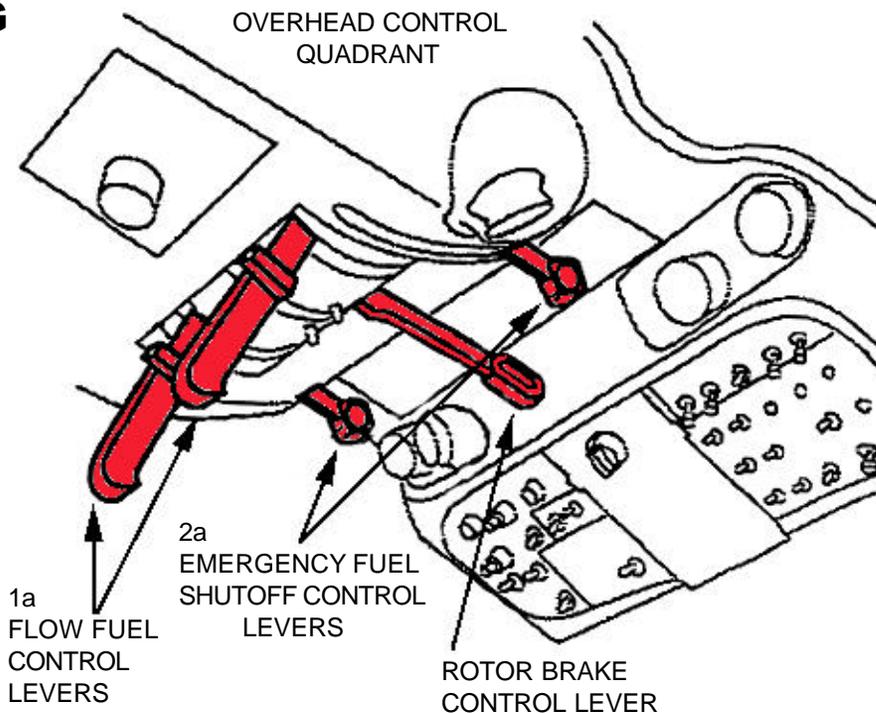
T.O. 00-105E-9

1. ENGINE SHUTDOWN

NOTE:

There are two Fuel Flow Control Levers, one for each engine, are located on the overhead control quadrant. There are three detent positions on the 100 degree range: SHUTOFF, IDLE AND FLIGHT. The detents can be passed by pulling the lever to the right and moving it beyond the detent. A mechanical interlock prevents the levers from being moved forward of the IDLE position when the rotor brake is applied.

- a. Pull the Fuel Flow Control Levers to the SHUTOFF position.

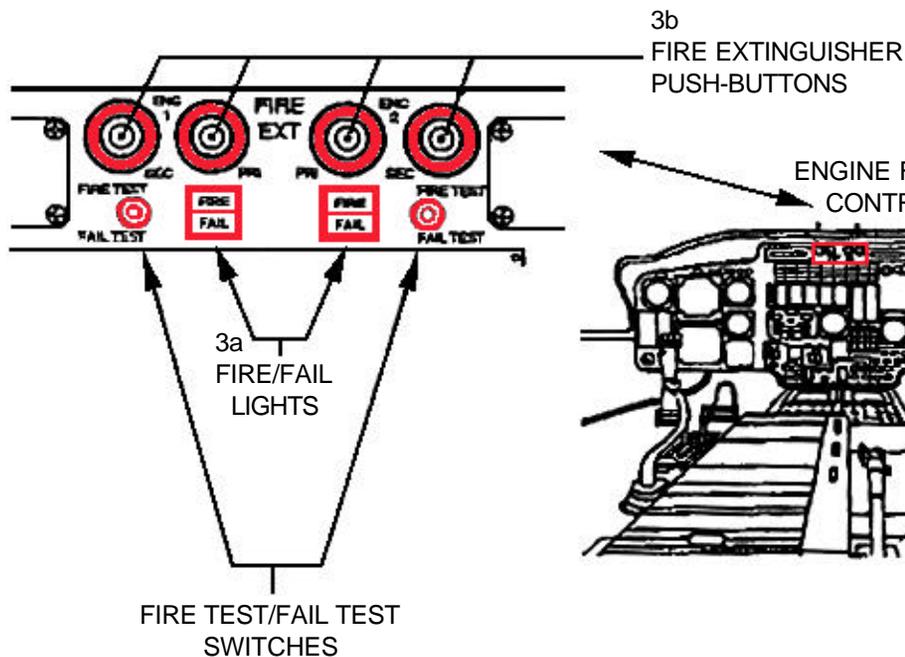


2. EMERGENCY SHUTDOWN

NOTE:

There are two emergency Fuel Shutoff Control Levers, one for each engine, are located on the overhead control quadrant. Each lever is used for emergency shutdown of the respective engine in the event of a fire within the engine compartment or in case of malfunction in the engine gas generator speed control system. The levers are breakaway wired in the OPEN (forward) position.

- a. Pull the Fuel Shutoff Control Levers to the AFT position to shut off all fuel flow.

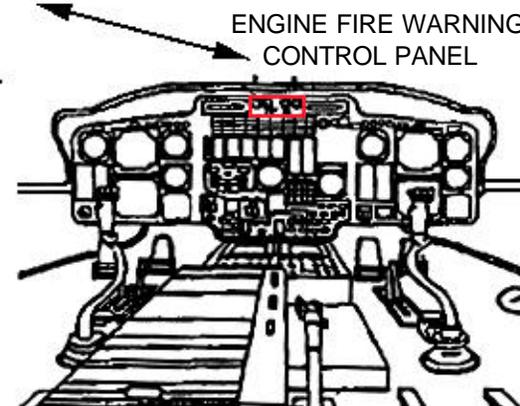


3. ENGINE FIRE WARNING CONTROL PANEL

NOTE:

The Engine Fire Warning Control Panel is located at the center of the instrument panel.

- a. In case of fire, the Fire/Fail Lights will illuminate.
- b. Push the appropriate Fire Extinguisher push button, located just above the Fire/Fail lights.



HH-65A:10 **ENGINE FIRE EXTINGUISHER BOTTLES**

HH-65A

T.O. 00-105E-9

1. ENGINE FIRE EXTINGUISHER BOTTLES

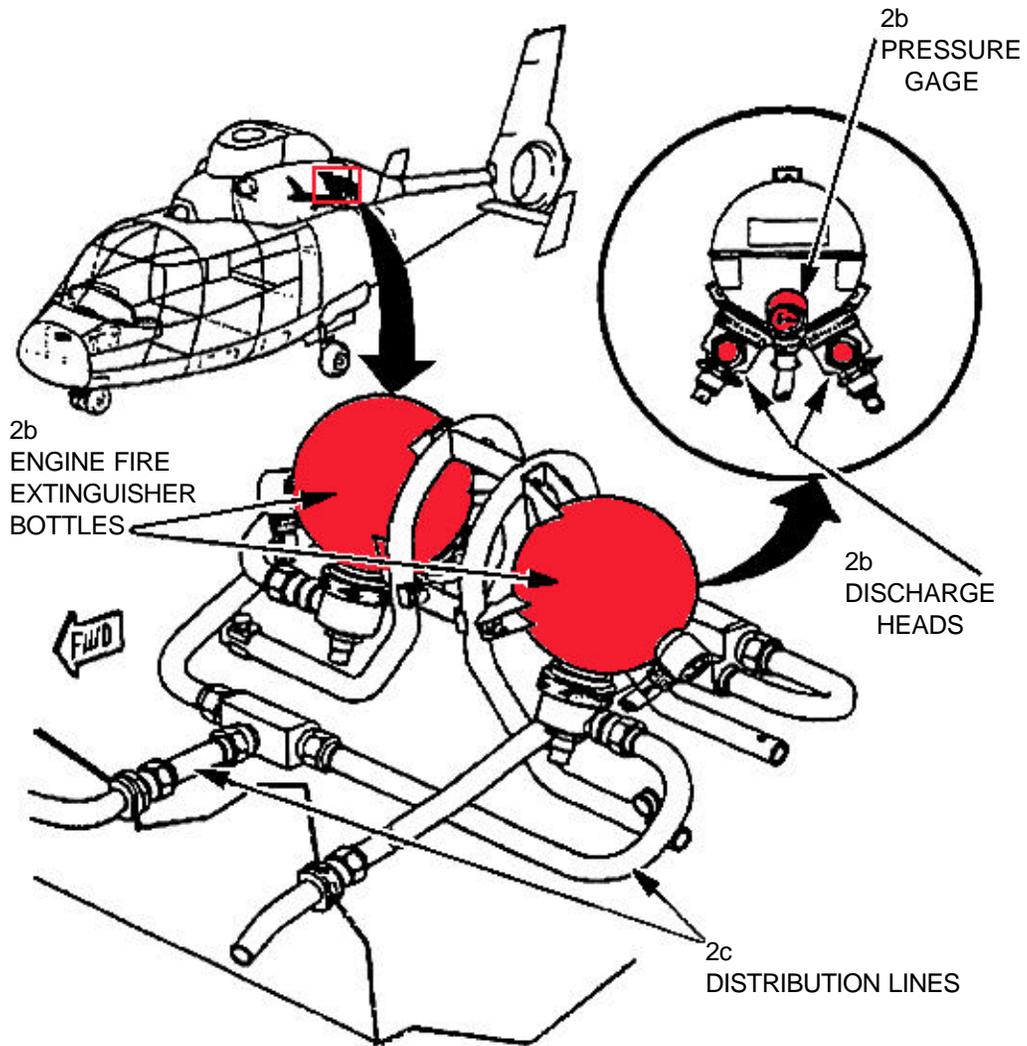
a. The engine fire extinguisher system is designed to extinguish fires in the engine compartment and is comprised of :

- Two spherical bottles
- Distribution system
- Engine fire warning/control panel
- Low pressure warning system

b. The characteristics of the fire extinguisher bottles are:

- Each bottle is mounted aft of it's respective engine bay in a fire protected area
- Equipped with dual discharge heads
- Extinguishing agent is released by explosive squibs
- Contains the agent Bromotrifluoromethane
- Pressurized to 600 - 626 PSI at 21.1⁰ Celsius.
- Each equipped with a pressure gage

c. The engine fire extinguisher distribution system mainly consists of distribution lines connected to the explosive squibs that route the extinguishing agent to the selected engine.



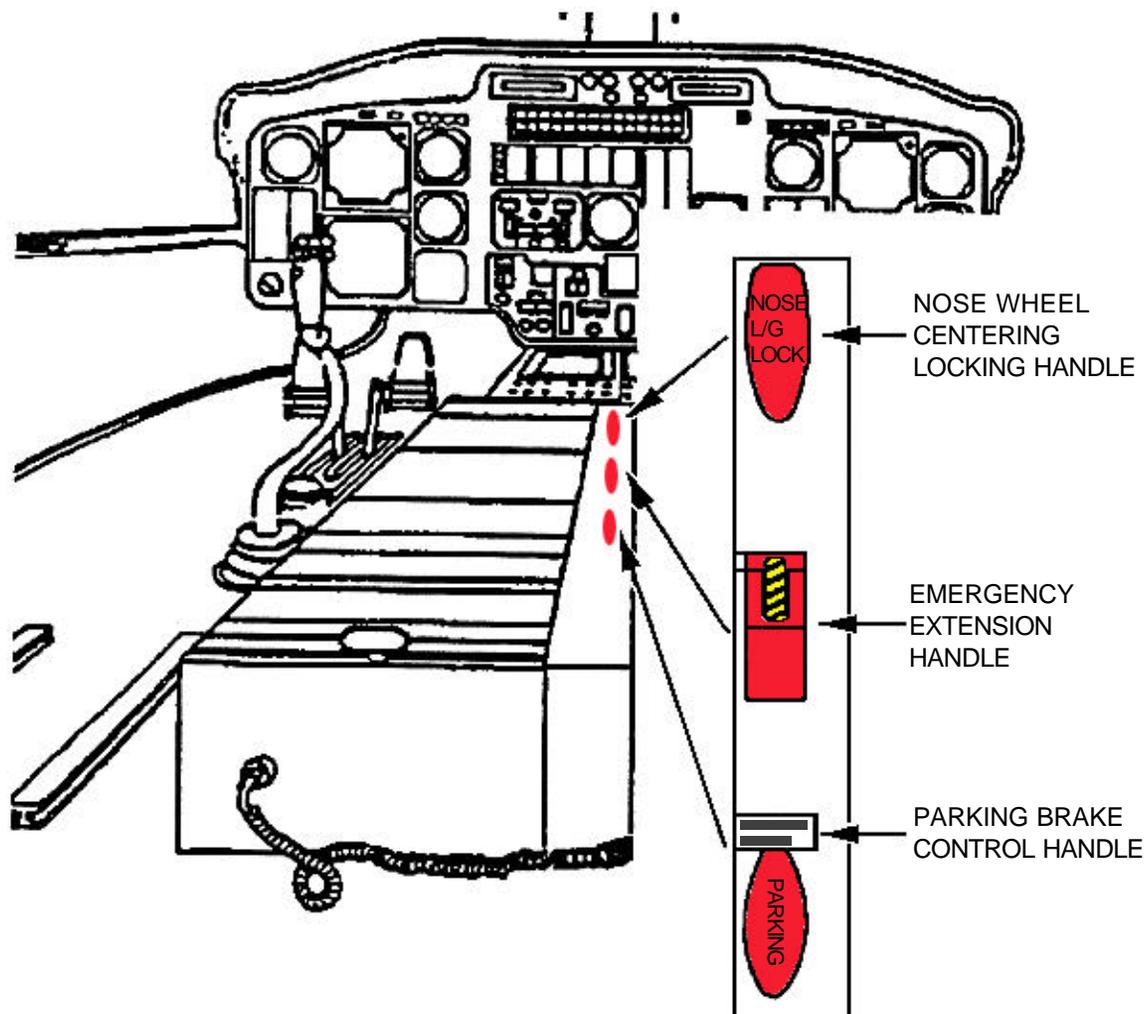
LANDING GEAR SYSTEM

1. LANDING GEAR SYSTEM

NOTE:

The operation of the landing gear system can be beneficial to a rescue team in stabilizing aircraft movement.

- a. The illustration at the right shows the control handles located on the pilot's side of the center console.



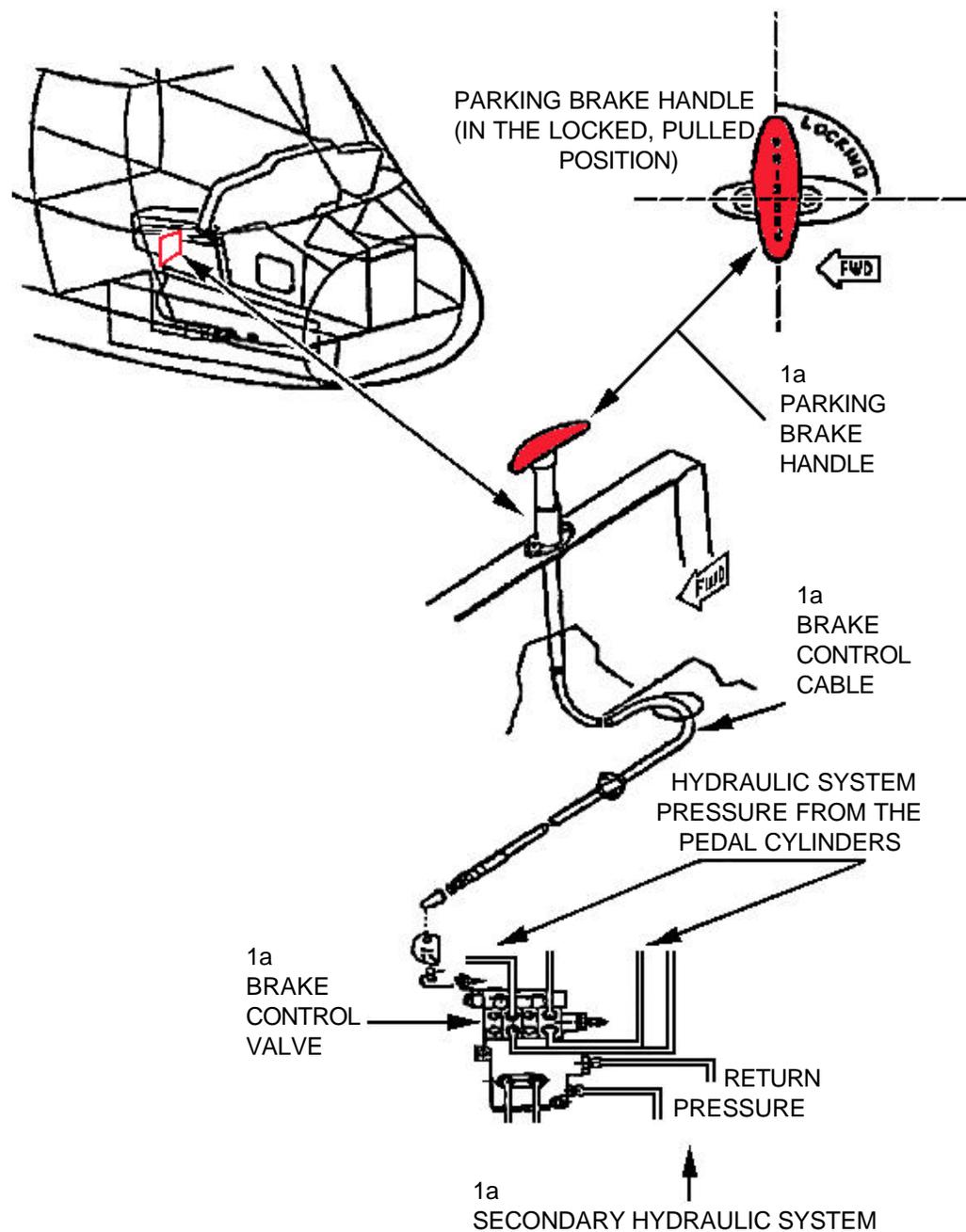
MAIN LANDING GEAR WHEEL BRAKE SYSTEM

1. MAIN LANDING GEAR WHEEL BRAKE SYSTEM

NOTE:

The brake can be useful during rescue operations to prevent the aircraft from movement.

- a. The illustration to the right shows the location and operation of the parking brake handle and brake control cable to the brake control valve of the secondary hydraulic system.



TOWING PROCEDURES

1. TOWING PROCEDURES

- a. Connect tow bar to the ends of the nose landing gear tow bar adapter.

NOTE:

While connecting the tow bar, ensure that the nose landing gear centering lock is in the unlocked position.

- b. Connect tow bar to tow tractor.
- c. Station required towing team members.
- d. Release parking brake and remove main landing gear chocks.

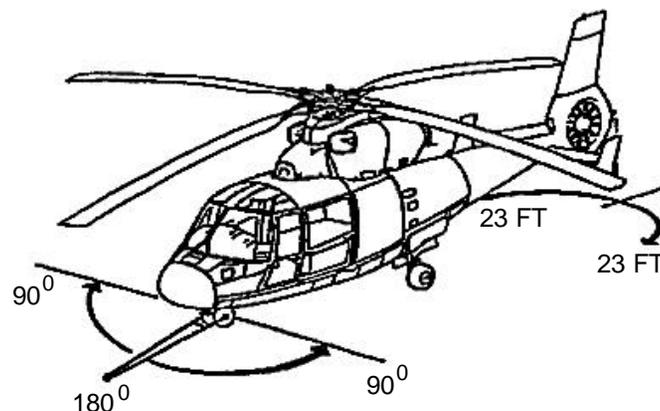
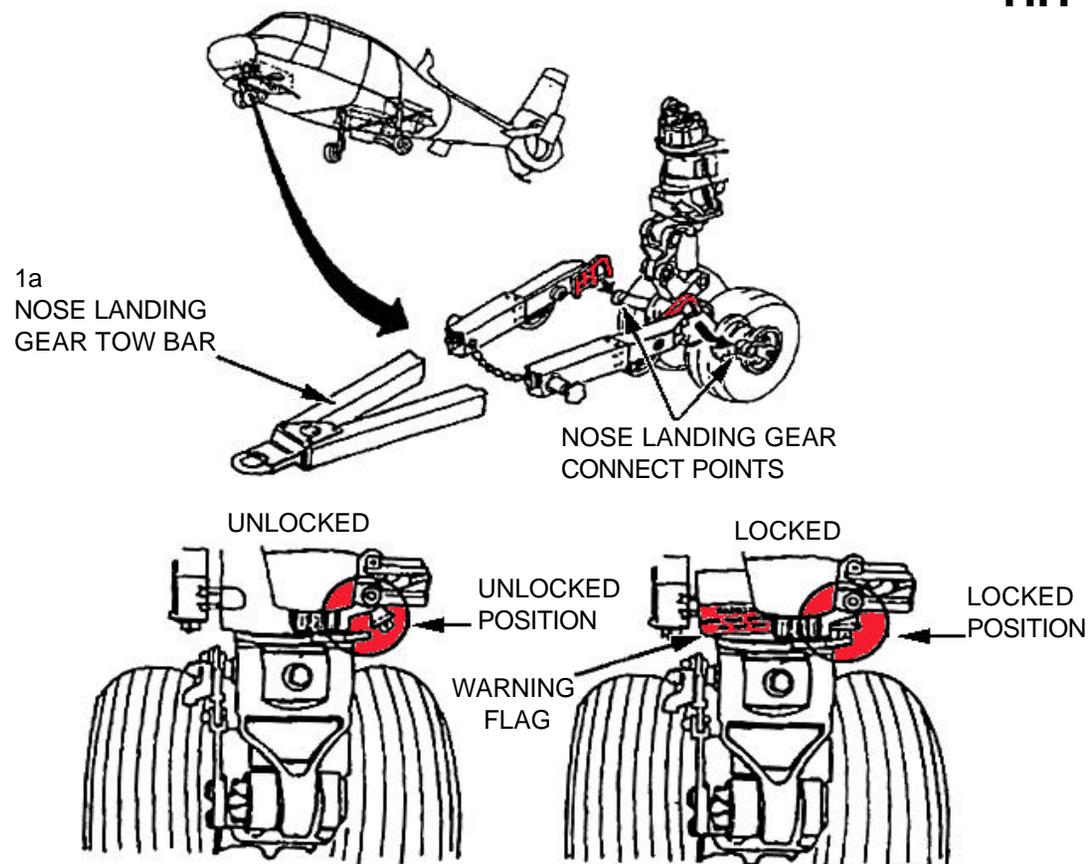
CAUTION

Avoid sudden acceleration or deceleration. Do not turn nose landing gear before rolling to prevent tire distortion and slipping on rims.

- e. Tow the aircraft.

NOTE:

Turn radius: Limited to a 90 degree turn of the nose landing gear. Allow 23 feet minimum turning radius for clearance of the tailboom.

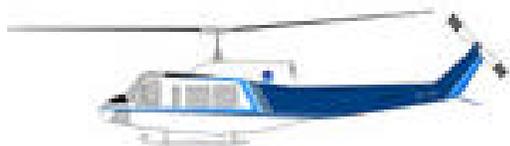


GENERAL INFORMATION

NATIONAL OCEANIC AND ATMOSPHERE ADMINISTRATION
(NOAA) ACTIVE AIRCRAFT INVENTORY

NOTE:

These aircraft will be cross referenced with other similar aircraft where appropriate.



BELL 212



GULFSTREAM TURBO COMMANDER
AC-690



ROCKWELL AERO COMMANDER
AC-500S



CESSNA CITATION II
CE-550



LAKE SEAWOLF
LA-27



DeHAVILLAND TWIN OTTER
DH-6



LOCKHEED WP-3D ORION



GULFSTREAM IV (SP) G-IV



MD 500D

GENERAL INFORMATION

NOTE:

This aircraft is similar to the UH-1N "Twin Huey"
See Chapter 9 for details.



BELL 212

GENERAL INFORMATION

NOTE:

This aircraft is a business jet and does not have a similar military designation. Emergency rescue information pending.

The is Cessna Citation (CE-550) a versatile twin-engine jet aircraft modified for acquiring coastal remote sensing imagery. The aircraft can support a wide variety of remote sensing configurations, including largeformat aerial photography as well as data collection for digital cameras, hyperspectral, multispectral, and LIDAR systems. Cessna Citation (CE-550)

STANDARD AIRCRAFT SPECIFICATIONS

Type:	Cessna Citation II/ Model 550
Crew:	2 Pilots and 2-4 Scientists
Ceiling:	43,000 feet (without supplemental cabin oxygen)
Rate of Climb:	2500 ft/min at sea level (20 minutes toclimb to 30,000 ft)
Cruise Airspeed:	350 knots (true)
Scientific Power:	8 amps @ 115 volts (5 standard outlets) 50 amps @ 28 volts DC
Max. Gross Weight:	14,600 lbs
Empty Weight:	7,800 lbs
Useful Load:	6,800 lbs (fuel, personnel, cargo)
Fuel Load:	5,008 lbs
Standard Fuel Burn:	Normal Cruise (98%): Range-1325 nm Duration-4 hrs15 min, Max. Cruise (104%): Range-1200 nm Duration-3 hrs 40min, Max. Endurance: Range-1610 nm Duration-5 hrs
Dimensions:	Wing Span: 51 ft 8.4 in, Total Length: 47 ft 3 in, Fuselage Height: 4.8 ft, Tail Height: 14 ft 9.6 in
Cabin Doors:	39 in x 21.25 in
Baggage Doors (rear):	22 in x 27 in
Cabin Length:	20.9 ft
Cabin Width:	4.9 ft
Useable Volume:	491 cu ft
Nose Baggage:	28 cu ft
Cabin Baggage:	947 cu ft
Cockpit:	Color weather radar, radar altimeter, integrated flight director system, HF radio, GPS flight management system
Cabin:	Dual cameras: Wild RC-30 on the right side/Wild RC- 10 on the left side. Applanix POS/AV IMU system and laptop computer Cabin



CESSNA CITATION II

GENERAL INFORMATION

NOTE:

This aircraft is similar to the P-3. See Chapter 21 for details.



LOCKHEED WP-3D ORION

GENERAL INFORMATION

NOTE:

This aircraft does not have a similar military designation. Emergency rescue information pending.

The Gulfstream Turbo Commander (AC-690) is a stable high-winged twin, pressurized turboprop aircraft that is suitable for a variety of missions. The standard configuration allows for mission equipment, two pilots, and one photographer. However, with all seats installed, five scientists/technicians may be accommodated in the cabin. NOAA's AC-690 Turbo Commander is utilized by the NGS Remote Sensing Division and the NOHRSC (National Operational Hydrologic Remote Sensing Center).



GULFSTREAM TURBO COMMANDER AC-690

STANDARD AIRCRAFT SPECIFICATIONS

Type:	Rockwell AC690A TurboCommander
Engines:	Garrett TPE 331-5-251K
Crew:	2 Pilots + 5 Scientists
Ceiling:	31,000 feet
Rate of Climb:	3000 feet/minute
Operational Airspeeds:	120 - 250 kts
Electrical:	Two 28 VDC generators, 110 VAC
Scientific Power:	28 VDC, 110 VAC
Max. Gross Weight:	10,250 lbs.
Empty Weight:	6830 lbs.
Useful Load:	3,420 lbs.
Fuel Load:	384 US gallons
Fuel Type:	Jet A,B JP4,5,8
Standard Fuel Burn:	Normal Cruise Speed - 60 to 90 gallons per hour, depending on altitude and mission
Dimensions (external):	Wing Span: 46 ft. 7 in., Total Length, Length: 44 ft. 5 in., Tail Height: 14 ft. 12 in.
Dimensions (internal):	Cabin Door: 47 in. X 26.5 in. Baggage Door: 31.25 in. X 19.75 in. Baggage volume: 45 cubic ft.

GENERAL INFORMATION

NOTE:

This aircraft does not have a similar military designation. Emergency rescue information pending.

The Lake Renegade Seawolf (LA-27) is a rugged, adaptable, single engine amphibious aircraft designed for nearshore low-level surveys. The aircraft is equipped with external fuel tanks, bubble windows, and NATO hardpoints. NOAA operates two of these single turbo-charged piston engine amphibious aircraft. A standard crew consists of one pilot and up to three scientists. The Lake aircraft have been used for biological surveys including red drum, sea turtle and marine mammal surveys, as well as on site terrain observations.

STANDARD AIRCRAFT SPECIFICATIONS

Type Engines: AVCO Lycoming TI0540-AA1AD

Crew: 1 Pilot + 3 Scientists

Ceiling: 12,500 feet (without supplemental cabin oxygen), 20,000 feet (with supplemental cabin oxygen)

Rate of Climb: 800 feet/minute

Operational Airspeeds: 120 knots

Electrical: Two 70 ampere alternators

Max. Gross Weight: 3700 lbs. (weight above 3450 lbs should consist of under wing fuel/ stores)

Empty Weight: 2450 lbs

Useful Load: 1000 lbs (fuel, personnel, cargo)

Fuel Load: 40 U.S. Gals main, 14 U.S. Gals, Auxiliary tanks (7 Gals ea, usable), 34 U.S. Gals wing tanks (17 Gals ea), 34 U.S. Gals ea drop tank

Type Fuel: Aviation Gasoline 100 or 100LL

Maximum Range/Duration: 12 hours/ 1500 NM

Dimensions (external): Length 28'9", Wing Span 39', Height 11'

Displacement: At rest 18" (17-19), Step taxi 6" (3-6)

Max wave height: 18"

Additional Standard Equipment (Cockpit) : GPS/ Loran-C navigation system with scientific data drop, radar altimeter, Dual VHF radios, real-time L1/L2 band differential GPS antenna, Trimble Pro X/R GPS receiver is plugged into this antenna and allows the crew to view moving map displays of the survey area as well as record detailed ancillary data collected during flight.

Additional Standard Equipment (Cabin): Bubble windows on each side of cabin (removeable), hardpoints (with jettison capability) for camera pod attachment, wing camera pod, modified ventilation system with individual air ducts for rear seat passengers.



LAKE SEAWOLF LA-27

GENERAL INFORMATION

NOTE:

This aircraft is similar to the C-20/H.
See Chapter 6 for details.



GULFSTREAM IV (SP) G-IV

GENERAL INFORMATION

NOTE:

This aircraft does not have a similar military designation. Emergency rescue information pending.

The Rockwell Aero Commander (AC-500S) is a versatile and stable high-winged twin piston-engine aircraft that is suitable for a variety of missions. Standard configuration allows for mission equipment and two pilots. However, with the scientific packages removed, seating for five additional passengers may be installed. NOAA's two aero commanders are utilized primarily as aerial survey platforms for visual verification of aeronautical charts, high-resolution aerial photography, and snow water equivalent and soil moisture content measurements. Additionally, the aircraft has been used in biological investigations, such as algal bloom measurements and sea turtle population assessments, and post-hurricane and severe flood damage assessment photography.



ROCKWELL AERO COMMANDER AC-500S

STANDARD AIRCRAFT SPECIFICATIONS

Type: Rockwell AC-500S Aero Commander

Engines:	Lycoming IO-540-E1B5 (piston)
Crew:	2 Pilots + 3 Scientists
Ceiling:	12,500 feet (without supplemental cabin oxygen) 18,000 feet (with supplemental cabin oxygen)
Rate of Climb:	1750 feet/minute
Operational Airspeeds:	90-150 knots
Electrical:	Two 28 VDC 100 ampere alternators
Max. Gross Weight:	6,750 lbs.
Empty Weight:	5,341 lbs., (5,621 lbs. including RC-8 Aerial Camera), (5,756 lbs. including Snow System)
Useful Load:	1,409 lbs. (fuel, personnel, cargo), (1,129 lbs. with camera installed), (994 lbs. with Snow System installed)
Fuel Load:	958 lbs. (159 gal)
Type Fuel:	100 LL
Standard Fuel Burn:	Normal Cruise Speed - 164 lbs./hr (27.3 gal/hr) Fuel Burn for specific mission configuration will be calculated during mission planning and will vary with environmental conditions.
Maximum Range and Duration:	@Normal Cruise - 670 nm @Max. Endurance - 860 nm @Normal Cruise - 4 hr 30 min @Max. Endurance - 6 hr 10 min
Dimensions (external):	Wing Span - 49 ft 0.6 in, Total Length - 36 ft 9.7 in, Fuselage Height - 14 ft 3.5 in, Tail Height - 14 ft 8.2 in
Forward Cabin Doors -	3 ft 10 in x 1 ft 11 in
Aft Cabin Doors -	3 ft 9 in x 2 ft 4 in
Baggage Doors -	1 ft 11 in x 1 ft 7 in
Dimensions (internal):	Cabin Length - 10 ft 7.5 in, Cabin Height - 4 ft 5 in, Cabin Width - 4 ft 4 in
Useable Volumes:	Cabin - 177 cu ft Baggage compartment - 32 cu ft
	Additional Standard Equipment, Cockpit: Weather radar, radar altimeter, GPS navigation system
	Cabin: Camera ports on bottom of fuselage (approx. 1' x 1'), RC-8 aerial camera GPS data port

GENERAL INFORMATION

NOTE:

This aircraft is similar to the UV-18B. See Chapter 12 for details.



DeHAVILLAND TWIN OTTER DH-6

GENERAL INFORMATION

NOTE:

This aircraft is similar to the O/MH-6 "Cayuse".
See Chapter 13 for details.



MD 500D

U.S. FORESTRY SERVICE (USFS) AIRCRAFT PAINT SCHEMES



USFS AIRCRAFT INVENTORY

USFS AIRCRAFT INVENTORY

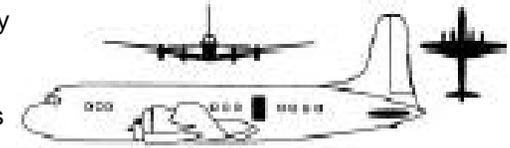
NOTE:

The aircraft in this section, once used for military purposes, will be briefly described and cross referenced with other similar aircraft where appropriate. Information has been extracted from the *Interagency Airtanker Base Operations Guide Appendix G for Airtankers and Appendix M for Helicopters*. Aircraft are placed in the order they appear in this Guide. Fleet membership will vary from state to state. These aircraft are primarily used for firefighting but are not limited to other duties such as transport and cargo usage. Due to the age of these aircraft, some may now be withdrawn from use.

NOTE:

The DC-7 and DC-6 emergency rescue files are located in Chapter 18.

The DC-7 is a converted civilian airliner with a retardant capacity of 3000 gallons. The DC-7 can be distinguished from the DC-4 and DC-6 models by square windows, with three being forward of the wing (DC-4 has round windows), and four-blade propellers (DC-4 & DC-6 have three-blade propellers).



DC-7

WINGSPAN	LENGTH	TURN RADIUS	WHEEL BASE	GEAR	CRUISE SPEED
117 FT 6 IN	105 FT 7 IN	72 FT 8 IN	24 FT 8 IN	DUAL	235 KTS
MAX TAKEOFF WT	MAX LANDING WT	ZERO FUEL WT	CONTRACT OPERATING WT	RET. LOAD GAL.	FPT WHEEL LOAD
116,900 LB	102,000 LB	96,000 LB	102,000 - 110,000 LB	3000	111 PSI

The DC-6 airtankers have been converted from civilian and military models. The DC-6 is similar to the DC-7 as it has the same wingspan and square windows but is about 1 foot shorter in length and has smaller engines. The DC-6 has three-blade propellers (DC-7 has four-blade propellers) and may or may not have windows (1 or 2) ahead of the wing.



DC-6

WINGSPAN	LENGTH	TURN RADIUS	WHEEL BASE	GEAR	CRUISE SPEED
117 FT 6 IN	107 FT 0 IN	72 FT 8 IN	24 FT 8 IN	DUAL	215 KTS
MAX TAKEOFF WT	MAX LANDING WT	ZERO FUEL WT	CONTRACT OPERATING WT	RET. LOAD GAL.	FPT WHEEL LOAD
92,200 LB	85,000 LB	96,000 LB	81,300 LB	2450	92 PSI

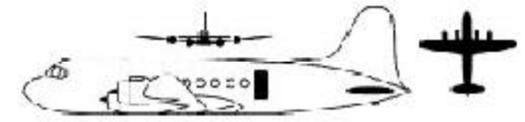
USFS AIRCRAFT INVENTORY- Continued

USFS AIRCRAFT INVENTORY-Continued

NOTE:

The DC-4 is a smaller version of the DC-6 with the emergency rescue file located in Chapter 18. The C-130 emergency rescue file is located in Chapter 6.

The DC-4 airtankers have been converted from civilian and military transport models. The DC-4 has the same wingspan as the DC-6 and DC-7 models but is considerably shorter in length. It can be identified by the round windows and three-blade propellers. The "Super" DC-4 is a stock model that has been converted to operate with larger engines.

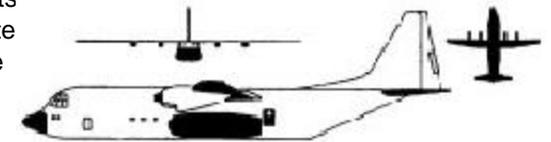


DC-4

WINGSPAN	LENGTH	TURN RADIUS	WHEEL BASE	GEAR	CRUISE SPEED
117 FT 6 IN	93 FT 11 IN	86 FT 2 IN	24 FT 8 IN	DUAL	178 KTS 200 KTS SUPER
MAX TAKEOFF WT	MAX LANDING WT	ZERO FUEL WT	CONTRACT OPERATING WT	RET. LOAD GAL.	FPT WHEEL LOAD
VARIES	VARIES	VARIES	63,500 LBS	2000	75 PSI
71,200 LB SUPER	61,500 LB SUPER	60,700 LB SUPER	65,370 LB SUPER	2200 SUPER	78 PSI SUPER

C-130A

The C-130 turbine airtanker is flown by civilian operators with bottom discharging retardant tanks, and by select military units who operate them as needed with temporary rear (over tail gate discharging retardant tanks called "MAFFS" (Modular Airborne Fire Fighting System)). The C-130 can be identified by the four turboprop engines with four-blade propellers, high wing, rear cargo door below the tail section, and in-line main dual landing gear wheels.



WINGSPAN	LENGTH	TURN RADIUS	WHEEL BASE	GEAR	CRUISE SPEED
132 FT 7 IN	99 FT 6 IN	106 FT 1 IN	14 FT 3 IN	DUAL	250 KTS
MAX TAKEOFF WT	MAX LANDING WT	ZERO FUEL WT	CONTRACT OPERATING WT	RET. LOAD GAL.	FPT WHEEL LOAD
120,000 LB	97,000 LB	83,500 LB	108,553 LB	3000	70 PSI

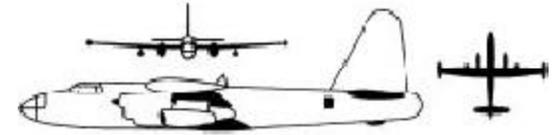
USFS AIRCRAFT INVENTORY- Continued

USFS AIRCRAFT INVENTORY-Continued

NOTE:

The P2V and SP-2H have not been previously listed in this manual and the emergency rescue information is not currently available.

The Lockheed P2V-5 and -7 models were used extensively by the Navy as long-range over-water patrol and anti-submarine warfare aircraft. The P2V has a mid-wing with reciprocating (piston) engines and jet engines. The jet engines burn the same fuel as the piston engines (AV-Fuel) and are used primarily for take-off assist and during the drop sequence.

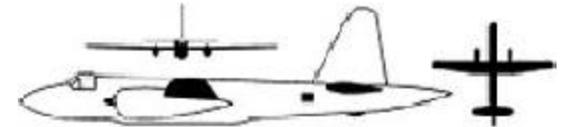


P2V

WINGSPAN	LENGTH	TURN RADIUS	WHEEL BASE	GEAR	CRUISE SPEED
100 FT 0 IN	86 FT 0 IN	71 FT 6 IN	25 FT 9 IN	SINGLE	187 KTS
MAX TAKEOFF WT	MAX LANDING WT	ZERO FUEL WT	CONTRACT OPERATING WT	RET. LOAD GAL.	FPT WHEEL LOAD
80,000 LB	67,000 LB	75,850 LB	73,000 LB	2450	109 PSI

SP-2H

The SP-2H is a modified version of the Lockheed P2V. The SP-2H can be identified by the smaller retardant tank profile, mid wing, and the absence of the jet engines. (See Lockheed P2V-5, -7 description).



WINGSPAN	LENGTH	TURN RADIUS	WHEEL BASE	GEAR	CRUISE SPEED
100 FT 0 IN	92 FT 0 IN	71 FT 6 IN	25 FT 9 IN	SINGLE	195 KTS
MAX TAKEOFF WT	MAX LANDING WT	ZERO FUEL WT	CONTRACT OPERATING WT	RET. LOAD GAL.	FPT WHEEL LOAD
67,500 LB	67,000 LB	59,100 LB	62,000 LB	2000	92 PSI

USFS AIRCRAFT INVENTORY- Continued

USFS AIRCRAFT INVENTORY-Continued

NOTE:

The P-3 is located in Chapter 22. The PB4Y has not been previously listed in this manual and the emergency rescue information is not currently available.

The Lockheed P3A was designed to meet the military's need for a turboprop submarine surveillance aircraft. Current versions of the P3 are still active in the military inventory. The civilian version of this aircraft is the L-188 "Electra." The P3 can be identified by the low wing, four turbine engines with four-blade propellers and eyebrow cockpit windows.



P3A

WINGSPAN	LENGTH	TURN RADIUS	WHEEL BASE	GEAR	CRUISE SPEED
99 FT 8 IN	106 FT 1 IN	88 FT 0 IN	31 FT 2 IN	DUAL	275 KTS
MAX TAKEOFF WT	MAX LANDING WT	ZERO FUEL WT	CONTRACT OPERATING WT.	RET. LOAD GAL.	FPT WHEEL LOAD
105,500 LB	105,000 LB	83,500 LB	97,000 LB	3000	89 PSI

The "Privateer" was designed as a long-range bomber during World War II. The Navy version has a single tail and the Army version - the B-24 model - has a double tail. The PB4Y-2 airtanker has been modified with larger engines and is designated as the "Super" PB4Y-2 model. The PB4Y-2 can be identified by the bomber appearance of the nose, outside ladder on the fuselage, high wing, four piston engines and three-blade propellers.



PB4Y

WINGSPAN	LENGTH	TURN RADIUS	WHEEL BASE	GEAR	CRUISE SPEED
110 FT 0 IN	74 FT 8 IN	68 FT 0 IN	25 FT 8 IN	SINGLE	184 KTS
MAX TAKEOFF WT	MAX LANDING WT	ZERO FUEL WT	CONTRACT OPERATING WT.	RET. LOAD GAL.	FPT WHEEL LOAD
60,900 LB	60,000 LB	N/A	59,480 LB	2200	93 PSI

USFS ACTIVE AIRCRAFT INVENTORY-Continued

USFS ACTIVE AIRCRAFT INVENTORY-Continued

NOTE:

The S-2 and S-2F3AT have not been previously listed in this manual and the emergency rescue information is not currently available. The KC-97 information was previously listed in older versions of this manual and is made available following this page.

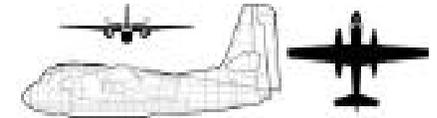
The Grumman S-2s were used extensively by the Navy as surveillance aircraft. These military aircraft have been converted to airtankers for the California Department of Forestry. The CDF S-2 airtankers are being modernized to turbine power, longer fuselages, and larger retardant tanks. **Information is for the S-2 recip version airtanker.**



S-2

WINGSPAN	LENGTH	TURN RADIUS	WHEEL BASE	GEAR	CRUISE SPEED
69 FT 8 IN	42 FT 0 IN	44 FT 8 IN	18 FT 6 IN	SINGLE	160 KTS
MAX TAKEOFF WT	MAX LANDING WT	ZERO FUEL WT	CONTRACT OPERATING WT.	RET. LOAD GAL.	FPT WHEEL LOAD
27,000 LB	24,500 LB	N/A	25,000 LB	800	102 PSI

Marsh Aviation has upgraded and extensively modified the Grumman S-2 for the California Department of Forestry. Modifications include turboprop engines, a new electrical system, new avionics, and a new 1200 gallon constant flow retardant tanksystem.



S-2F3AT

WINGSPAN	LENGTH	TURN RADIUS	WHEEL BASE	GEAR	CRUISE SPEED
72 FT 7 IN	43 FT 6 IN	45 FT 6.5 IN	18 FT 6 IN	SINGLE	256 KTS
MAX TAKEOFF WT	MAX LANDING WT	ZERO FUEL WT	CONTRACT OPERATING WT.	RET. LOAD GAL.	FPT WHEEL LOAD
29,150 LB	24,800 LB	N/A	29,150 LB	1200	110 PSI

The KC-97 was originally designed for the military to serve in roles such as airborne refueler and personnel/cargo transport aircraft before its civilian conversion to an airtanker. The KC-97 can be identified by the round glass cockpit nose area, square windows, mid wing, four engines and four-blade propeller.



KC-97

WINGSPAN	LENGTH	TURN RADIUS	WHEEL BASE	GEAR	CRUISE SPEED
141 FT 3 IN	110 FT 4 IN	84 FT 10 IN	28 FT 6 IN	DUAL	210 KTS
MAX TAKEOFF WT	MAX LANDING WT	ZERO FUEL WT	CONTRACT OPERATING WT.	RET. LOAD GAL.	FPT WHEEL LOAD
153,000 LB	153,000 LB	128,000 LB	126,000 LB	3000	117 PSI

SPECIAL TOOLS/EQUIPMENT

Power Rescue Saw
Fire Drill II

AIRCRAFT ENTRY-ALL MODELS

1. NORMAL ENTRY

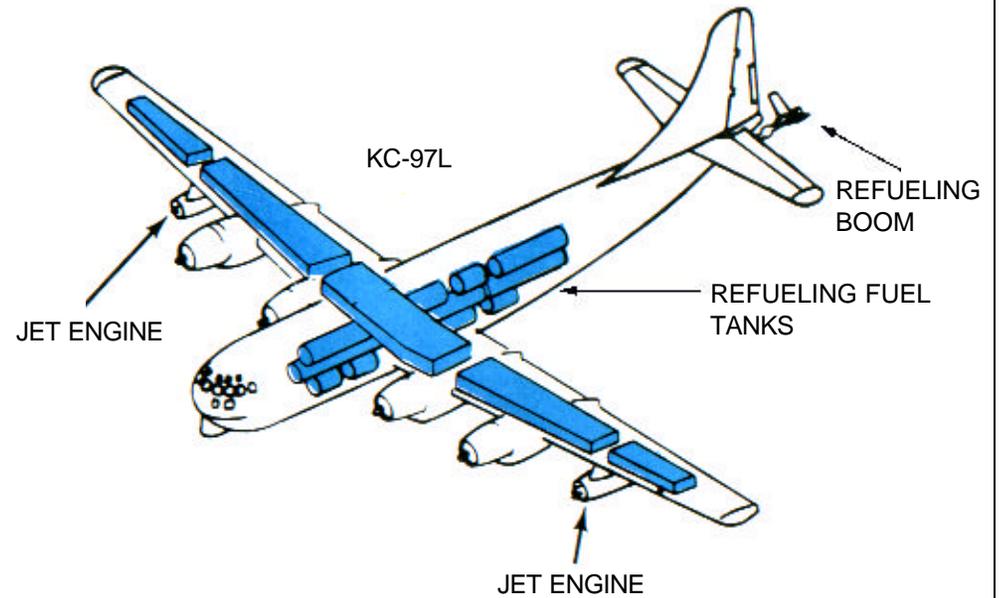
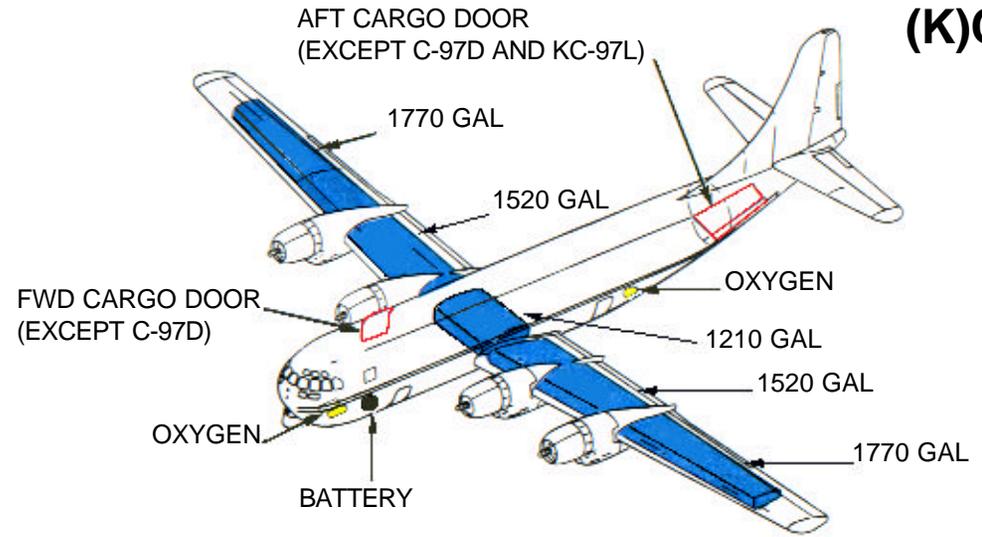
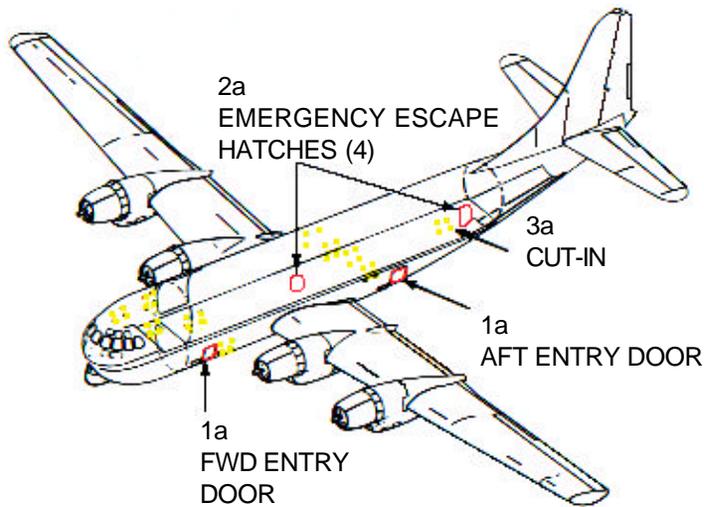
a. Push in on flush type door and squeeze trigger to release door outward. Entry doors are located forward and aft on left side of fuselage.

2. EMERGENCY ENTRY

a. Pull emergency escape hatch release handles, located over wing and forward of rear cargo door on each side of aircraft.
b. Push in escape hatches. Total hatches: four.

3. CUT-IN

a. Cut in areas as marked on fuselage.



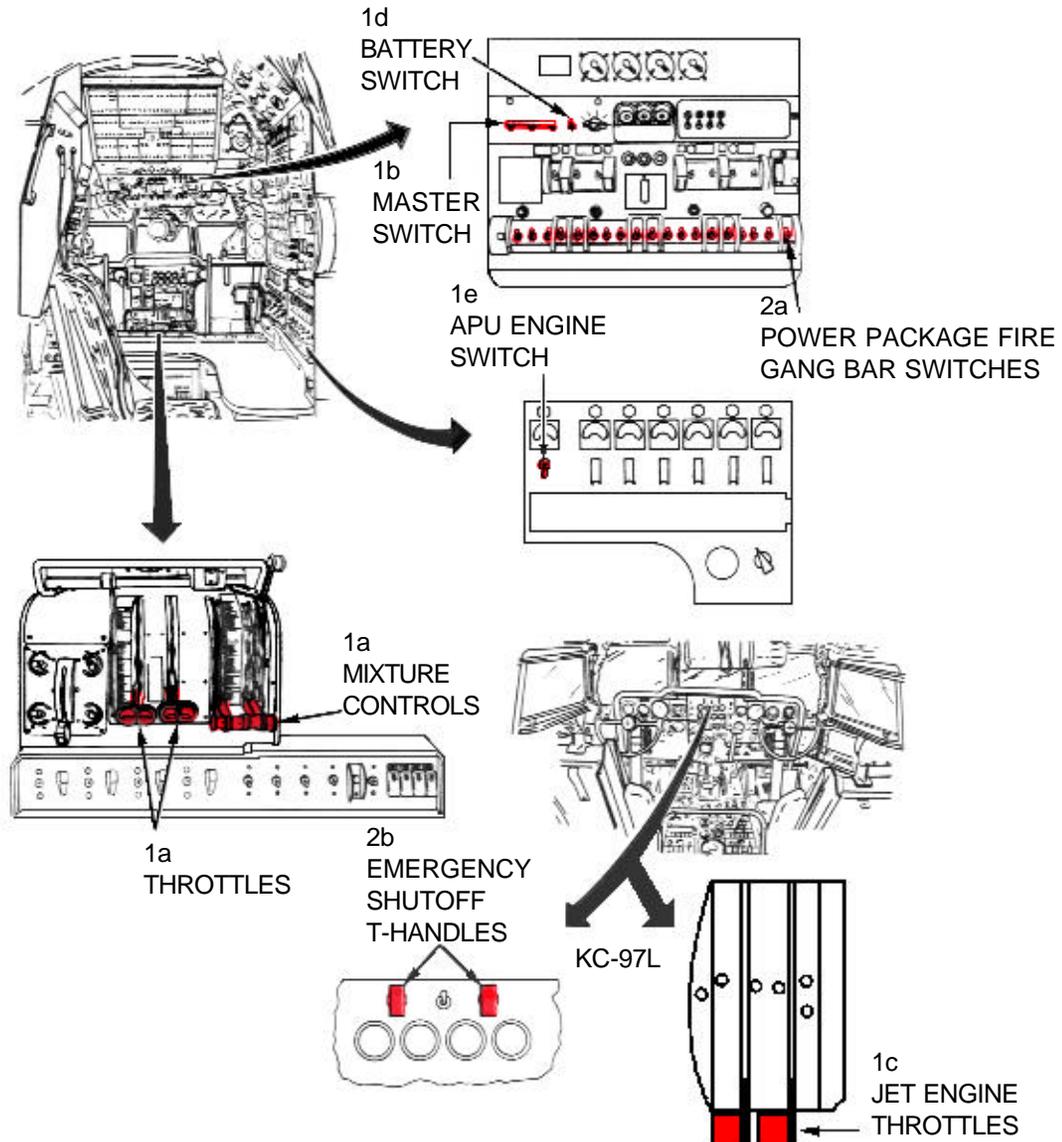
(K)C-97

ENGINE/APU SHUTDOWN AND AIRCREW EXTRACTION

(K)C-97

1. NORMAL SHUTDOWN

- Retard throttles and mixture control lever, located on the center control panel, to the CLOSED (aft) position.
- Place master switch, located on left side of engineer's overhead panel, to the OFF position.
- For KC-97L aircraft with engines, retard jet engine throttle aft to OFF position.
- Place battery switch, located on right side of master switch, to the OFF position.
- Place APU engine switch, located on the APU control panel, to the OFF position.



2. EMERGENCY SHUTDOWN

- Pull power package fire gang bar switches (six places), located on the overhead panel, to the downward position.
- On L model, pull emergency shutoff T-handles, located on top and center on pilot's instrument panel.

3. AIRCREW EXTRACTION

- Release lap belts and remove shoulder harness from crewmembers.

NOTE:

If seat tracks are not damaged during crash landing, use adjustable seat control handle to retract seat to aft position.

- If passenger seats are installed, only lap belts are installed.

USFS HELICOPTER INVENTORY

APPENDIX M: CRASH-RESCUE DIAGRAMS

NOTE:

This appendix provides typical diagrams of various makes and models of helicopters. The intent is to provide crash-rescue personnel on helibases or at other locations with general information concerning aircraft layout, emergency ingress and egress, and emergency procedures for fuel and electrical power shutoff. It is essential that helibase and other personnel with crash-rescue responsibilities, or who may be assigned such responsibilities, receive a briefing by the pilot on the specific characteristics of the helicopter with which they are working.

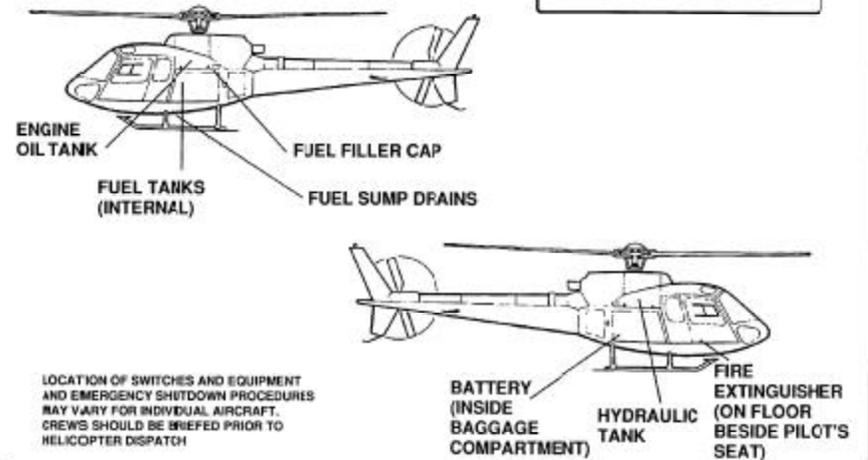
NOTE:

The following charts will appear as they appear in Appendix M.

AEROSPATIALE

CRASH RESCUE

AS 350



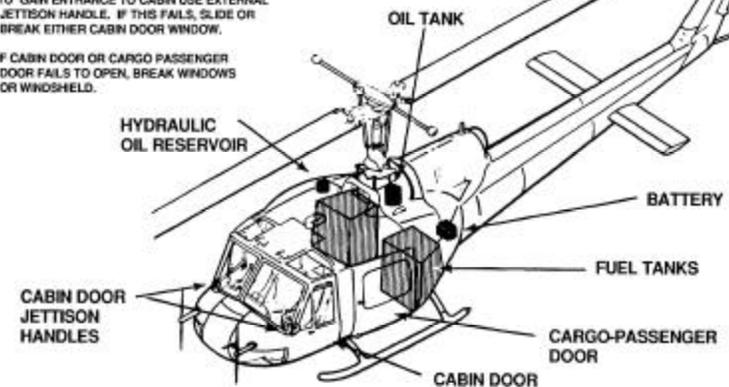
BELL

CRASH RESCUE

204B (UH-1A, 1B, 1C)

LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH

- TO GAIN ENTRANCE TO CABIN USE EXTERNAL JETTISON HANDLE. IF THIS FAILS, SLIDE OR BREAK EITHER CABIN DOOR WINDOW.
- IF CABIN DOOR OR CARGO PASSENGER DOOR FAILS TO OPEN, BREAK WINDOWS OR WINDSHIELD.



BELL CRASH RESCUE

LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH

206B (OH-58)

* IF CABIN OR CARGO-PASSENGER DOOR FAILS TO OPEN, BREAK WINDOWS OR WINDSHIELD

* ALL DOORS HAVE RECESSED HANDLES POINTING FORWARD, PULL OUT AND BACK OUTSIDE. INSIDE PULL 6TYFFRT HANDLES UP.



SEE BACK SIDE FOR EMERGENCY SHUTDOWN PROCEDURE

BELL ENGINE SHUTDOWN & AIRCREW EXTRACTION

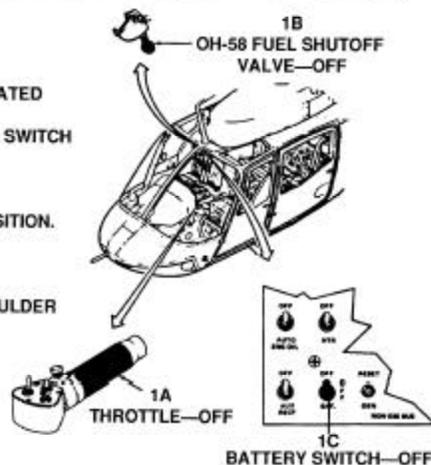
1. ENGINE SHUTDOWN

- ROTATE THROTTLE, LOCATED ON PILOT'S COLLECTIVE PITCH STICK, TO OFF POSITION.
- OH-58 PULL FUEL SHUTOFF VALVE, LOCATED OVERHEAD IN CREW COMPARTMENT, AFT TO OFF POSITION. 206B TURN FUEL SWITCH ON PANEL TO OFF POSITION.
- PLACE BATTERY SWITCH, LOCATED ON OVERHEAD SWITCH PANEL, TO OFF POSITION.

2. AIRCREW EXTRACTION

- UNLATCH LAP BELTS AND REMOVE SHOULDER HARNESS FROM CREWMEMBER(S).

206B (OH-58)



BELL CRASH RESCUE

LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH

206L-3

• TO GAIN ENTRANCE TO CABIN, SLIDE OR BREAK EITHER CABIN DOOR WINDOW.

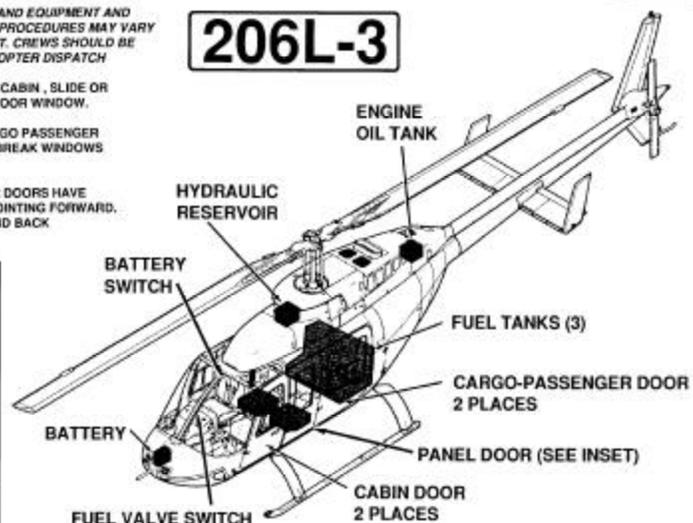
• IF CABIN DOOR OR CARGO PASSENGER DOOR FAILS TO OPEN, BREAK WINDOWS OR WINDSHIELD

• PILOT AND PASSENGER DOORS HAVE RECESSED HANDLES POINTING FORWARD. OUTSIDE—PULL OUT AND BACK. INSIDE—PULL UP

PANEL DOOR HANDLE



OPENING INSTRUCTIONS
1. Open rear door
2. Lift panel door handle
3. Rotate as shown



SEE BACK SIDE FOR EMERGENCY SHUTDOWN PROCEDURES

BELL CRASH RESCUE PROCEDURES

Emergency Procedure:

206L-3

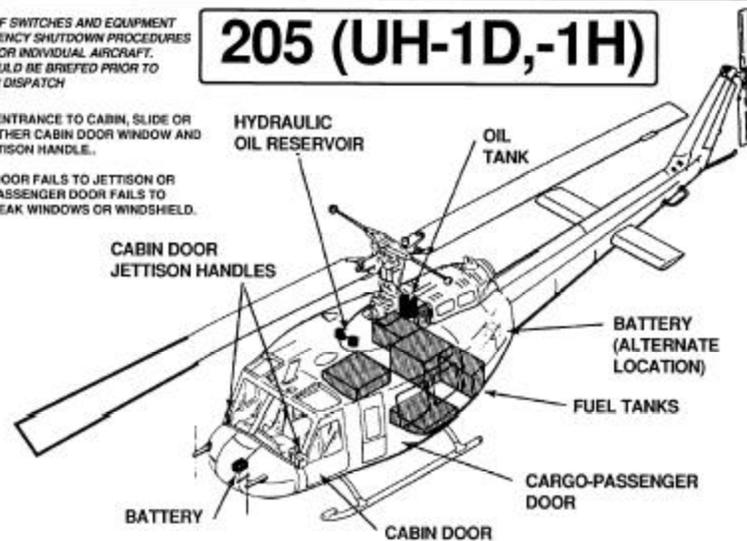
- Wait until all rotors have stopped.
- Shut off fuel switch located in the instrument panel. It's usually covered by a metal red cover.
- Disconnect battery located on nose of helicopter. Remove front panel, and rotate knob counterclockwise, and disconnect cable from battery.
- Evacuate personnel if necessary.
- Make sure ELT is in the on position, and remove from helicopter. ELT is located in the chin bubble area on the pilots side.
- Remove fire extinguisher. It's located between the two front seats at shoulder level.
- Remove first aid kit. It's located between the two aft facing seats in the rear passenger area.
- If possible, secure the area from outside interference.

BELL CRASH RESCUE

LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH

205 (UH-1D,-1H)

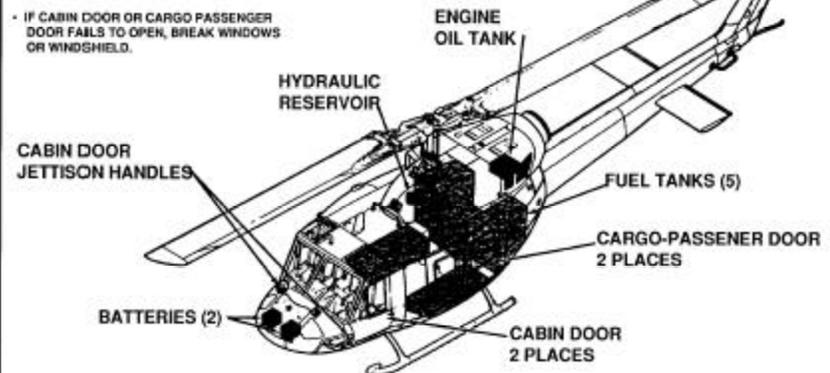
- TO GAIN ENTRANCE TO CABIN, SLIDE OR BREAK EITHER CABIN DOOR WINDOW AND PULL JETTISON HANDLE.
- IF CABIN DOOR FAILS TO JETTISON OR CARGO-PASSENGER DOOR FAILS TO OPEN, BREAK WINDOWS OR WINDSHIELD.

**BELL CRASH RESCUE**

LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH

214

- TO GAIN ENTRANCE TO CABIN USE EXTERNAL JETTISON HANDLE. IF THIS FAILS, SLIDE OR BREAK EITHER CABIN DOOR WINDOW.
- IF CABIN DOOR OR CARGO-PASSENGER DOOR FAILS TO OPEN, BREAK WINDOWS OR WINDSHIELD.

**BELL CRASH RESCUE**

LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH

412/212

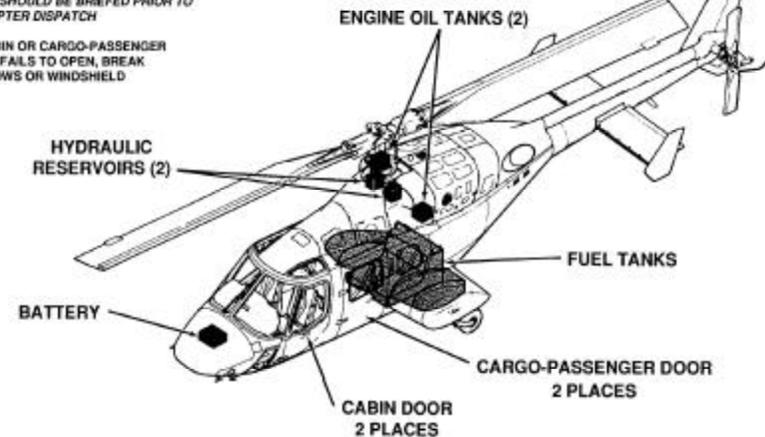
- TO GAIN ENTRANCE TO CABIN, SLIDE OR BREAK EITHER CABIN DOOR WINDOW.
- IF CABIN DOOR OR CARGO-PASSENGER DOOR FAILS TO OPEN, BREAK WINDOWS OR WINDSHIELD.

**BELL CRASH RESCUE**

LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH

222

- IF CABIN OR CARGO-PASSENGER DOOR FAILS TO OPEN, BREAK WINDOWS OR WINDSHIELD



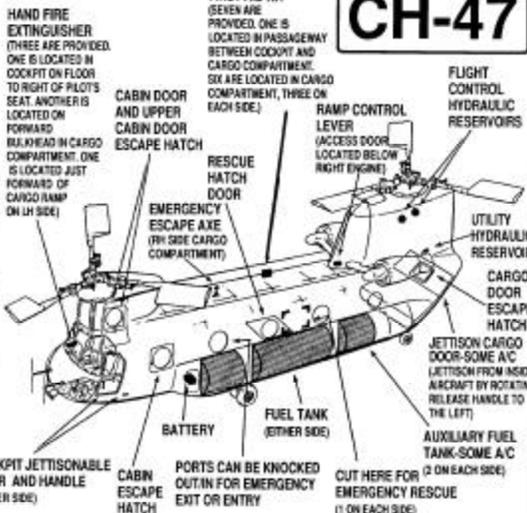
BOEING
VERTOL

CRASH RESCUE

LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH

- EMERGENCY ENTRANCE TO COCKPIT IS GAINED THROUGH JETTISON DOORS BY ACTUATING HANDLE LABELED DOOR JETTISON PUSH TRIGGER, TURN HANDLE. IF DOOR DOES NOT FALL AWAY, PULL AWAY.
- EMERGENCY ENTRANCE TO CARGO COMPARTMENT IS GAINED THROUGH CABIN DOOR OR UPPER DOOR ESCAPE HATCH, CABIN ESCAPE HATCH, RAMP ESCAPE HATCH, AND COUTOUT PANELS. ALL ESCAPE HATCHES CAN BE OPENED BY PULLING THE YELLOW TAB OUT AND PUSHING THE PANEL IN.
- AN ACCESS DOOR TO THE CARGO RAMP CONTROL LEVER IS LOCATED ON RIGHT SIDE OF AIRCRAFT BELOW THE RIGHT ENGINE. RAMP MAY BE LOWERED, PROVIDING EMERGENCY ENTRANCE, BY PLACING THE CONTROL LEVER IN THE DOWN POSITION.
- A RESCUE HATCH LOCATED IN FLOOR OF CARGO COMPARTMENT MAY BE USED FOR EMERGENCY EXIT IF LOWER RESCUE DOOR HAS BEEN PREVIOUSLY OPENED.

TYPE: TWIN-TURBINE ENGINE TANDEM ROTOR
CREW: NORMAL CONDITIONS 3-4
PASSENGERS: 35 FULLY EQUIPPED GROUND TROOP
LITTERS: 24 IN'S MEDICAL ATTENDANT'S SEATS



CH-47

SEE BACK SIDE FOR EMERGENCY SHUTDOWN PROCEDURES

BOEING
VERTOL

ENGINE SHUTDOWN & AIRCREW EXTRACTION

CH-47

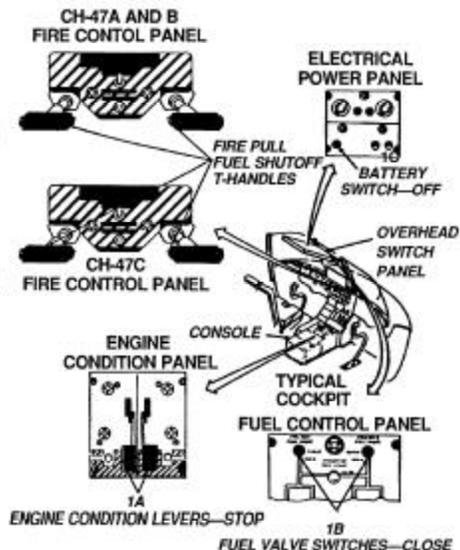
1. NORMAL SHUTDOWN

- A. POSITION ENGINE CONDITION LEVERS, LOCATED ON CONTROL PEDESTAL, TO STOP.
- B. POSITION FUEL VALVE SWITCHES, LOCATED ON OVERHEAD FUEL CONTROL PANEL, TO CLOSE.
- C. POSITION BATTERY SWITCH, LOCATED ON OVERHEAD ELECTRICAL CONTROL PANEL, TO OFF.

NOTE:
IF ENGINES FAIL TO SHUTDOWN, PULL FUEL SHUTOFF T-HANDLE, LOCATED AT TOP OF INSTRUMENT PANEL, OUT.

2. AIRCREW EXTRACTION

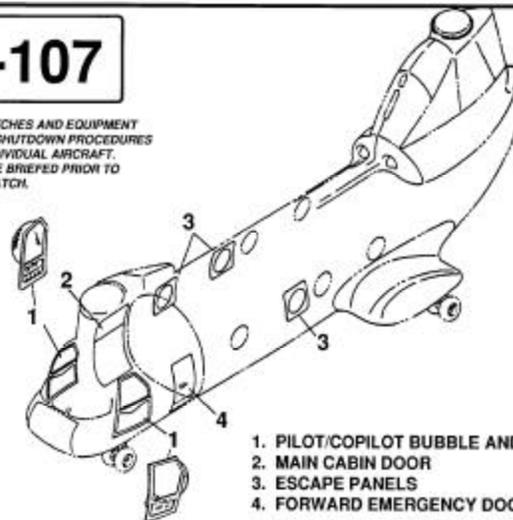
- A. UNLATCH SEAT BELTS AND REMOVE SHOULDER HARNESS FROM CREWMEMBER(S).

BOEING
VERTOL

CRASH RESCUE

BV-107

LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH.



1. PILOT/COPILOT BUBBLE AND JETTISON WINDOWS
2. MAIN CABIN DOOR
3. ESCAPE PANELS
4. FORWARD EMERGENCY DOOR

SEE BACK SIDE FOR EMERGENCY SHUTDOWN PROCEDURES

BOEING
VERTOL

EMERGENCY SHUTDOWN PROCEDURE

THE FOLLOWING PROCEDURES WILL BE FOLLOWED IN THE EVENT OF FIRE OR OTHER EMERGENCY DURING HOT REFUELING:

BV-107

1. FUEL VALVES —CLOSED
2. BOOST PUMPS — OFF
3. ENGINE CONDITION LEVERS (ECLs) — STOP
4. PILOT & COPILOT EMERGENCY DOORS/BUBBLES — JETTISON

(CONSIDER LOCATION OF FIRE DUE TO LOCATION OF REFUELING POINT BEFORE JETTISONING COCKPIT DOORS.)

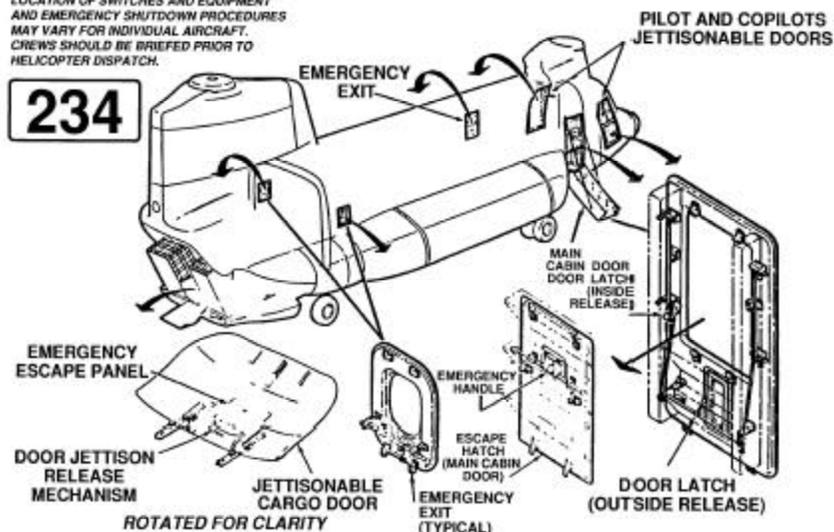
5. AIRCRAFT — EVACUATE
6. FIRE EXTINGUISHER — DIRECT ON FIRE

BOEING
VERTOL

CRASH RESCUE

LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH.

234



SEE BACK SIDE FOR EMERGENCY SHUTDOWN PROCEDURES

BOEING
VERTOLEMERGENCY SHUTDOWN
PROCEDURE

THE FOLLOWING PROCEDURES WILL BE FOLLOWED IN THE EVENT OF FIRE OR OTHER EMERGENCY DURING HOT REFUELING:

234

1. ENGINE CONDITION LEVERS (ECLs) — STOP
2. T-HANDLES — PULL
3. BOOST PUMPS — OFF
4. PILOT & COPILOT EMERGENCY DOORS/BUBBLES — JETTISON

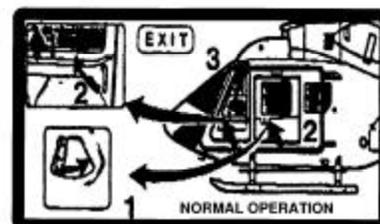
(CONSIDER LOCATION OF FIRE DUE TO LOCATION OF REFUELING POINT BEFORE JETTISONING COCKPIT DOORS.)

5. AIRCRAFT — EVACUATE
6. FIRE EXTINGUISHER — DIRECT ON FIRE

EUROCOPTER

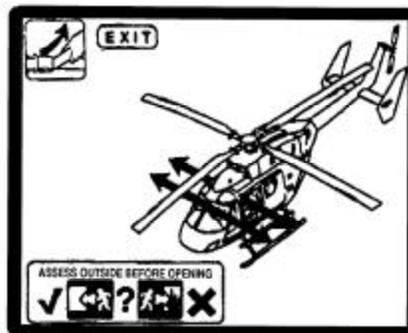
CRASH RESCUE

BK-117



SEE BACK SIDE FOR EMERGENCY SHUTDOWN PROCEDURES

LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH.



EUROCOPTER

EMERGENCY PROCEDURE/
ENGINE FIRE ON GROUND

BK-117

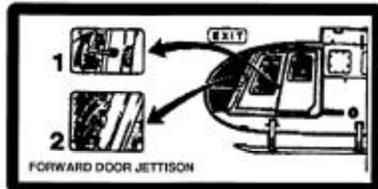
1. PASSENGERS — ALERT/EVACUATE
2. BOTH EMERGENCY FUEL VALVES — CLOSE
3. BOTH FUEL SUPPLY PUMPS — OFF
4. BOTH POWER LEVERS — OFF
5. BATTERY AND GENERATORS — OFF

EXTINGUISH FIRE WITH HAND FIRE EXTINGUISHER

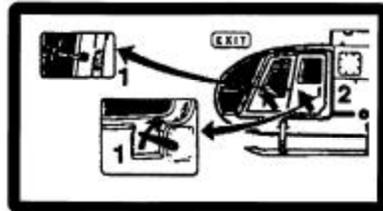
EUROCOPTER

CRASH RESCUE

BO-105



EMERGENCY OPERATION



NORMAL OPERATION



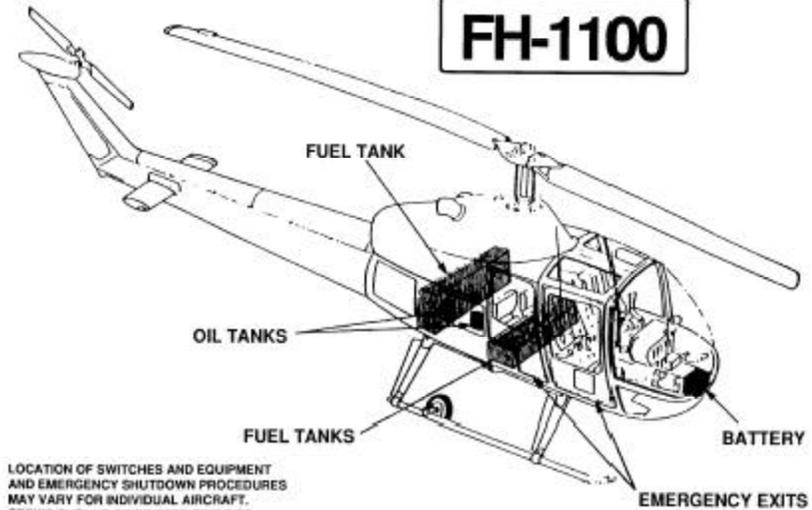
LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH.

SEE BACK SIDE FOR EMERGENCY SHUTDOWN PROCEDURES

FAIRCHILD
HILLER

CRASH RESCUE

FH-1100



LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH.

EUROCOPTER

EMERGENCY PROCEDURE/
ENGINE FIRE ON GROUND

BO-105

1. PASSENGERS — ALERT/EVACUATE
2. BOTH EMERGENCY FUEL VALVES — CLOSE
3. BOTH FUEL SUPPLY PUMPS — OFF
4. BOTH POWER LEVERS — OFF
5. BATTERY AND GENERATORS — OFF

EXTINGUISH FIRE WITH HAND FIRE EXTINGUISHER

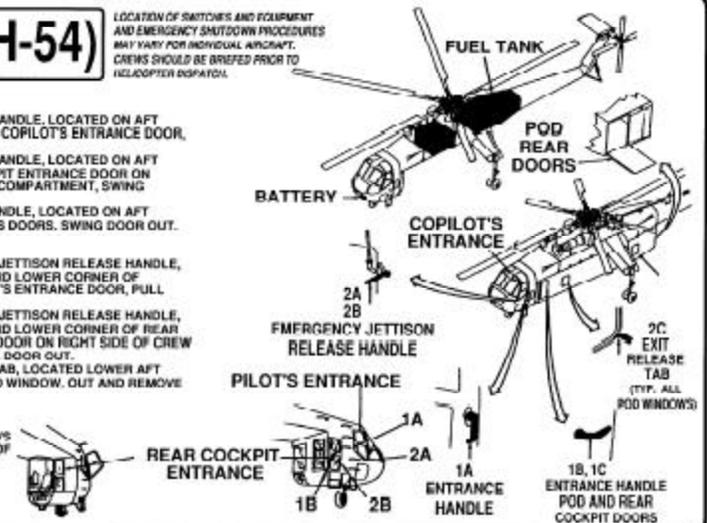
SIKORSKY

CRASH RESCUE

S-64 (CH-54)

LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH.

1. NORMAL ENTRY
 - A. ROTATE ENTRANCE HANDLE, LOCATED ON AFT EDGE OF PILOT'S AND COPILOT'S ENTRANCE DOOR, SWING DOOR OUT.
 - B. ROTATE ENTRANCE HANDLE, LOCATED ON AFT EDGE OF REAR COCKPIT ENTRANCE DOOR ON RIGHT SIDE OF CREW COMPARTMENT, SWING DOOR OUT.
 - C. ROTATE ENTRANCE HANDLE, LOCATED ON AFT EDGE OF POD ACCESS DOORS, SWING DOOR OUT.
2. EMERGENCY ENTRY
 - A. ROTATE EMERGENCY JETTISON RELEASE HANDLE, LOCATED AT FORWARD LOWER CORNER OF PILOT'S AND COPILOT'S ENTRANCE DOOR, PULL DOOR OUT.
 - B. ROTATE EMERGENCY JETTISON RELEASE HANDLE, LOCATED AT FORWARD LOWER CORNER OF REAR COCKPIT ENTRANCE DOOR ON RIGHT SIDE OF CREW COMPARTMENT, PULL DOOR OUT.
 - C. PULL EXIT RELEASE TAB, LOCATED LOWER AFT CORNER OF EACH POD WINDOW. OUT AND REMOVE WINDOW.
3. CUT-IN
 - A. CUT AROUND WINDOWS AND ACCESS DOORS OF POD AS MARKED.



McDONNELL DOUGLAS
(HUGHES)

CRASH RESCUE

500-C,D (OH-6)

LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH.

- EMERGENCY ENTRANCES MAY BE GAINED THROUGH CABIN DOORS AND CARGO-PASSENGER DOORS.
- IF DOORS FAIL TO OPEN, BREAK GLASS TO GAIN ACCESS TO DOOR JETTISON HANDLE. PULL TO JETTISON DOOR.



SEE BACK SIDE FOR EMERGENCY SHUTDOWN PROCEDURES

McDONNELL DOUGLAS
(HUGHES)

ENGINE SHUTDOWN & AIRCREW EXTRACTION

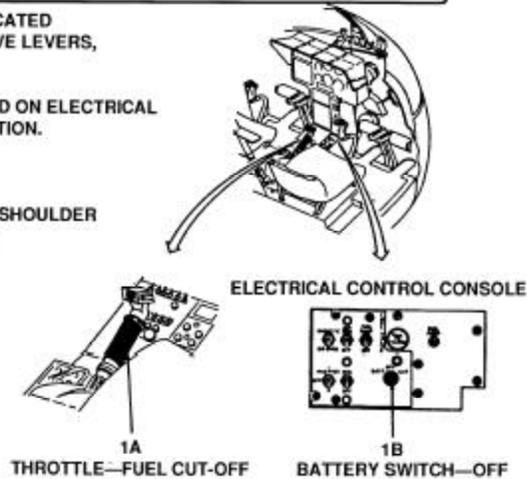
500-C,D (OH-6)

1. ENGINE SHUTDOWN

- ROTATE THROTTLE CONTROL, LOCATED ON PILOT AND COPILOT COLLECTIVE LEVERS, TO FUEL CUT-OFF POSITION.
- PLACE BATTERY SWITCH, LOCATED ON ELECTRICAL CONTROL CONSOLE, TO OFF POSITION.

2. AIRCREW EXTRACTION

- UNLATCH LAP BELT AND REMOVE SHOULDER HARNESS FROM CREWMEMBER(S).



SIKORSKY

CRASH RESCUE

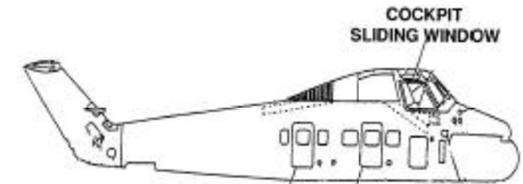
S-58T

LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH.

COCKPIT SLIDING WINDOWS, CARGO DOORS, PASSENGER DOORS AND EMERGENCY ESCAPE HATCHES CAN BE JETTISONED BY PULLING APPROPRIATE EMERGENCY RELEASE HANDLES.



EMERGENCY HATCH



COCKPIT SLIDING WINDOW

PASSENGER DOORS

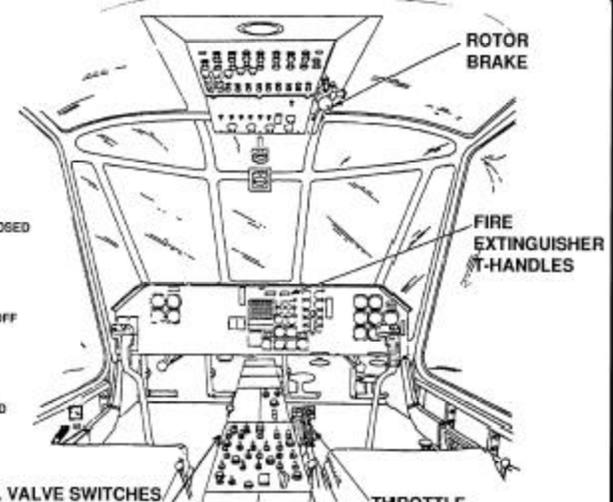
SEE BACK SIDE FOR EMERGENCY SHUTDOWN PROCEDURES

SIKORSKY

EMERGENCY SHUTDOWN PROCEDURE

S-58T

- THROTTLE TWIST GRIP—OFF (CONTROL STICK RIGHT OF CENTER CONSOLE)
- FUEL SHUTOFF VALVE SWITCHES—CLOSED (CENTER CONSOLE)
- FUEL BOOST PUMP SWITCHES—OFF (CENTER CONSOLE)
- BATTERY & GENERATOR SWITCHES—OFF (CENTER CONSOLE)
- ROTOR BRAKE—ON IF ROTOR BLADES ARE TURNING (RIGHT OF OVERHEAD SWITCH PANEL) RED HANDLE—PULL DOWN & FORWARD



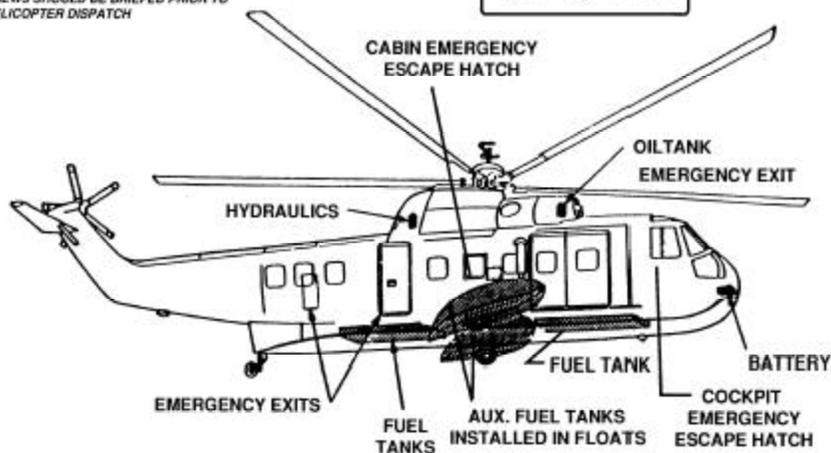
FUEL VALVE SWITCHES
FUEL BOOST PUMP SWITCHES
BATTERY & GENERATOR SWITCHES

THROTTLE TWIST GRIP

SIKORSKY CRASH RESCUE

LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH

S-61N

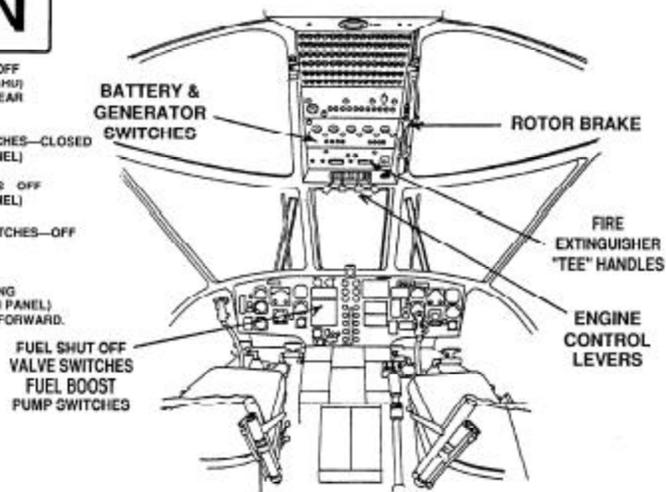


SEE BACKSIDE FOR EMERGENCY SHUTDOWN PROCEDURES

SIKORSKY ENGINE SHUTDOWN & AIRCREW EXTRACTION

S-61N

- ENGINE CONTROL LEVERS—OFF (CENTER OVERHEAD—FORWARD) PULL AFT, THEN DOWN TO CLEAR DETENT AT END OF ARC.
- FUEL SHUT OFF VALVE SWITCHES—CLOSED (CENTER OF INSTRUMENT PANEL)
- FUEL BOOST PUMP SWITCHES OFF (CENTER OF INSTRUMENT PANEL)
- BATTERY & GENERATOR SWITCHES—OFF (OVERHEAD SWITCH PANEL)
- ROTOR BRAKE—ON IF ROTOR BLADES ARE TURNING (RIGHT OF OVERHEAD SWITCH PANEL) RED HANDLE—PULL DOWN & FORWARD.



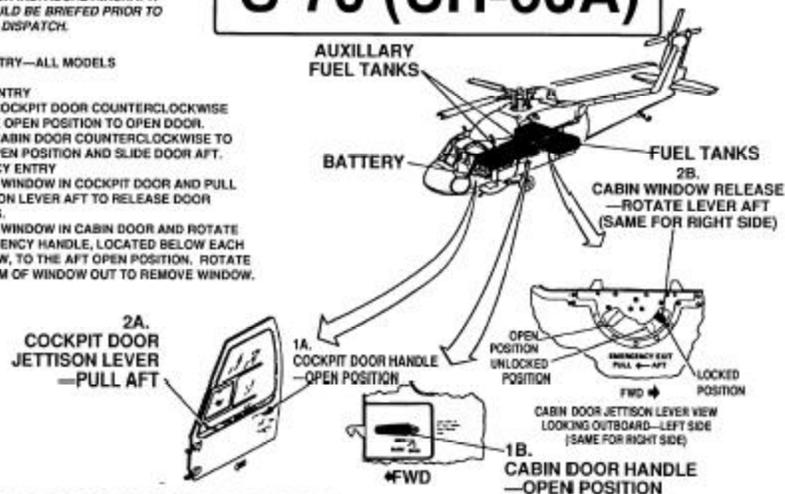
SIKORSKY CRASH RESCUE

LOCATION OF SWITCHES AND EQUIPMENT AND EMERGENCY SHUTDOWN PROCEDURES MAY VARY FOR INDIVIDUAL AIRCRAFT. CREWS SHOULD BE BRIEFED PRIOR TO HELICOPTER DISPATCH.

S-70 (UH-60A)

AIRCRAFT ENTRY—ALL MODELS

- NORMAL ENTRY
 - TURN COCKPIT DOOR COUNTERCLOCKWISE TO THE OPEN POSITION TO OPEN DOOR.
 - TURN CABIN DOOR COUNTERCLOCKWISE TO THE OPEN POSITION AND SLIDE DOOR AFT.
- EMERGENCY ENTRY
 - BREAK WINDOW IN COCKPIT DOOR AND PULL JETTISON LEVER AFT TO RELEASE DOOR HINGES.
 - BREAK WINDOW IN CABIN DOOR AND ROTATE EMERGENCY HANDLE, LOCATED BELOW EACH WINDOW, TO THE AFT OPEN POSITION. ROTATE BOTTOM OF WINDOW OUT TO REMOVE WINDOW.



SEE BACK SIDE FOR EMERGENCY SHUTDOWN PROCEDURES

SIKORSKY ENGINE SHUTDOWN & AIRCREW EXTRACTION

S-70 (UH-60A)

- ENGINE SHUTDOWN

NOTE: TO ACTIVATE THE INSTALLED FIRE EXTINGUISHING SYSTEM, ONE (T) HANDLE MUST BE PULLED. AGENT IS DISCHARGED TO LAST (T) HANDLE PULLED. THEN REPOSITION THE FIRE EXTINGUISHER SWITCH FROM OFF TO MAIN OR RESERVE. BATTERY SWITCH MUST BE IN THE ON POSITION.

 - PULL ENGINE EMERGENCY (T) HANDLES, LOCATED ON CONTROL QUADRANT, FULL AFT.
 - PULL APU (T) HANDLE LOCATED ON UPPER CONSOLE, DOWN.
 - PLACE BATTERY SWITCH, LOCATED ON UPPER CONSOLE, TO THE OFF POSITION.
- AIRCREW—TROOP EXTRACTION

NOTE: ALL AIRCREW SEATS HAVE A COMPLETE LAP BELT AND DUAL TORSO RESTRAINT SHOULDER HARNESS ATTACHED TO A ROTARY RELEASE BUCKLE.

ALL TROOP SEATS HAVE A LAP BELT AND SHOULDER HARNESS ATTACHED TO A ROTARY RELEASE BUCKLE.

